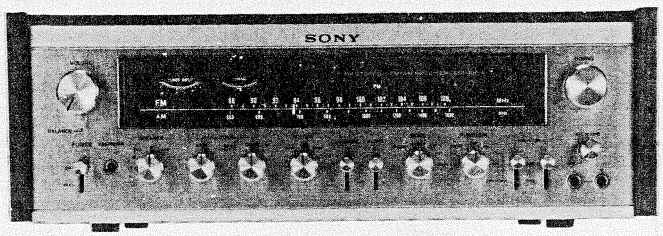
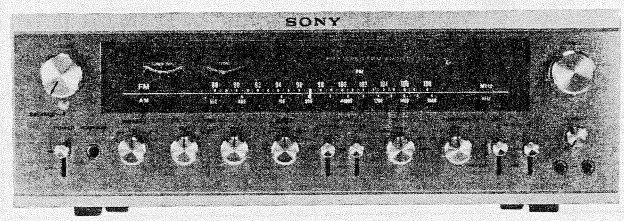
STR-7065A

USA Model
UK Model
AEP Model
GEP Model



(USA Model)



(UK, AEP and GEP Model)

FM STEREO/FM-AM RECEIVER

SPECIFICATIONS

FM TUNER SECTION

Frequency range:	87.5 — 108 MHz
Antenna:	300 Ω terminals, balanced 75 Ω terminals, unbalanced
Intermediate frequency:	10.7 MHz
Sensitivity:	2.0 μV (IHF) 1.6 μV (S/N = 30 dB)
Image rejection:	70 dB
I-f rejection:	100 dB
Spurious rejection:	90 dB
A-m suppression:	56 dB
Capture ratio:	1.0 dB
Selectivity:	70 dB (IHF)
S/N ratio:	70 dB
Frequency response:	20 — 15,000 Hz ± 1 dB
Harmonic distortion:	Mono: 0.2 % Stereo: 0.4 % at 400 Hz, 100 % modulation (75 kHz deviation)
Stereo separation:	Greater than 43 dB at 400 Hz
SCA suppression:	68 dB
Muting level:	5 μV

A-M TUNER SECTION

Frequency range:	530 — 1,605 kHz
Antenna:	Built-in bar antenna and external antenna terminal
Intermediate frequency:	455 kHz (USA and GEP Model) 468 kHz (AEP and UK Model)
Sensitivity:	48 dB/m, built-in ferrite-rod antenna at 1,000 kHz 100 μV, external antenna
Image rejection:	50 dB at 1.000 kHz
I-f rejection:	40 dB at 1,000 kHz
S/N ratio:	50 dB at 50 mV/m
Harmonic distortion:	0.8 % at 50 mV/m

POWER AMPLIFIER SECTION

Continuous RMS power output: (Less than 0.2 % THD)	at 20 — 20,000 Hz 65 + 65 W (8 Ω) (USA and GEP Model) 45 + 45 W (8 Ω) (AEP and UK Model) at 1 kHz 70 + 70 W (8 Ω) (USA and GEP Model) 50 + 50 W (8 Ω) (AEP and UK Model) (both channels driven simultaneously)
Dynamic power output: (IHF constant power supply method)	240 W (8 Ω) (USA and GEP Model) 170 W (8 Ω) (AEP and UK Model) 380 W (4 Ω) (USA and GEP Model) 270 W (4 Ω) (AEP and UK Model)
Power bandwidth, IHF:	15 — 35,000 Hz
Damping factor:	50 (8 Ω)
Harmonic distortion:	Less than 0.2 % at continuous RMS power output Less than 0.1 % at 1 W output
IM distortion: (60 Hz : 7 kHz = 4 : 1)	Less than 0.2 % at continuous RMS power output Less than 0.1 % at 1 W output

— continues to page 2 —

SONY®

SERVICE MANUAL

STR-7065A

Residual noise: Less than 0.05 μW

S/N ratio: Greater than 110 dB (closed circuit)

Frequency response: 10 – 100,000 Hz $^{+0}_{-1}$ dB at 1 W output

Input sensitivity and impedance: 1 V at continuous RMS power output 50 kΩ

PREAMPLIFIER SECTION

Input sensitivity and impedance:

	Sensitivity ※	Impedance
PHONO	3 mV	47 kΩ
MIC	1.6 mV	47 kΩ
AUX	250 mV	50 kΩ
TAPE 1, 2		
REC/PB(input)		

Note: ※Measured with continuous RMS power output into 8Ω loads (both channels driven simultaneously) at 1 kHz.

Maximum input capability: 100 mV . . . . PHONO

Output level and impedance:

	Level	Impedance
REC OUT	250 mV	10 kΩ
REC/PB (output)	30 mV	82 kΩ
PREAMP OUTPUT	1 V	4.7 kΩ

S/N ratio:

	S/N	Weighting network	Input level
PHONO	72 dB	A	3 mV
MIC	65 dB	B	1.6 mV
AUX	90 dB	A	250 mV
TAPE 1, 2			
REC/PB(input)			

Harmonic distortion: Less than 0.2 % at continuous RMS power output

IM distortion: (60 Hz : 7 kHz = 4 : 1) Less than 0.2 % at continuous RMS power output

Frequency response:
- PHONO: RIAA equalization curve ± 1 dB
- MIC: 100 – 10,000 Hz $^{+0}_{-3}$ dB
- AUX, TAPE 1, 2, REC/PB (input): 10 – 70,000 Hz $^{+0}_{-3}$ dB

Tone controls:
- BASS: ± 10 dB at 100 Hz
- TREBLE: ± 10 dB at 10 kHz

High filter: 12 dB/oct. above 9 kHz

Low filter: 12 dB/oct. below 50 Hz

Loudness control: + 10 dB at 50 Hz, + 4 dB at 10 kHz (Attenuation : 30 dB)

GENERAL:

System: Superheterodyne fm/a-m tuner
Complementary symmetry circuit (SEPP OTL), Direct output coupling

Power requirements:
120 Vac, 60 Hz (USA Model)
100, 120, 220, 240 Vac, 50/60 Hz (GEP Model)
110, 127, 220, 240 Vac, 50/60 Hz (UK and AEP Model)

Power consumption:
180 W (USA Model)
300 W (GEP Model)
370 W (UK and AEP Model)

AC outlets: 2 switched, 200 W / 1 unswitched, 200 W (USA Model only)

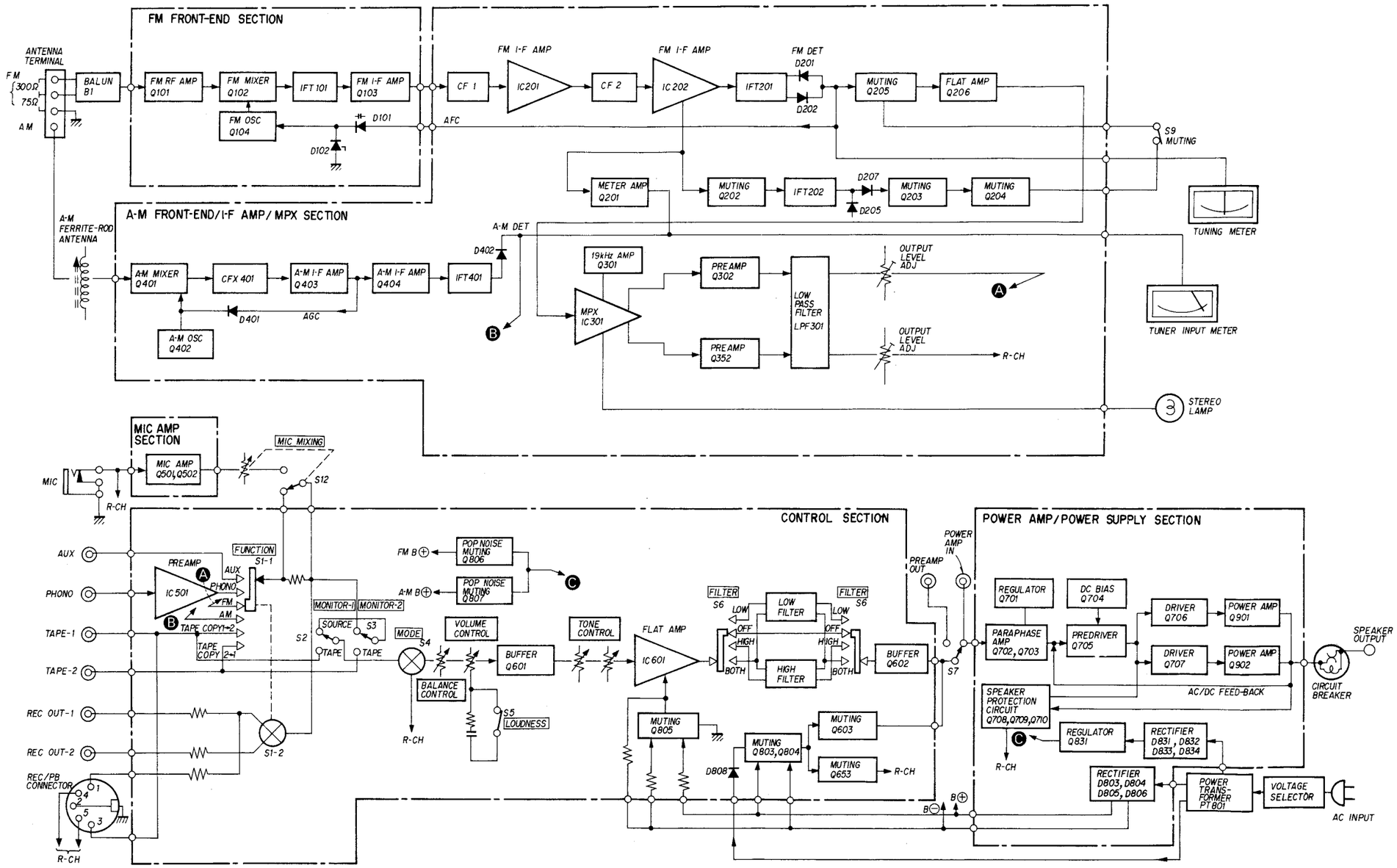
Dimensions:
471 (w) x 157 (h) x 375 (d) mm
18 1/4 (w) x 6 1/8 (h) x 14 3/4 (d) inches (USA Model)
440 (w) x 148 (h) x 375 (d) mm
17 3/8 (w) x 5 7/8 (h) x 14 3/4 (d) inches (UK, AEP and GEP Model)

Net weight:
15.2 kg, 33 lb 10 oz (USA Model)
13.2 kg, 29 lb 2 oz (UK, AEP and GEP Model)

Shipping weight:
18.9 kg, 44 lb 10 oz(USA Model)
16.9 kg, 37 lb 4 oz (UK, AEP and GEP Model)

SECTION 1
BLOCK DIAGRAM

1-1 BLOCK DIAGRAM



SECTION 2
DISASSEMBLY AND REPLACEMENT

2-1. BOTTOM PLATE REMOVAL

Remove the eight self-tapping screws shown in Fig. 2-1.

2-2. FRONT PANEL REMOVAL

1. Remove all the knobs on the front panel.
2. Remove the three self-tapping screws shown in Fig. 2-1.
3. Remove the three screws shown in Fig. 2-2.

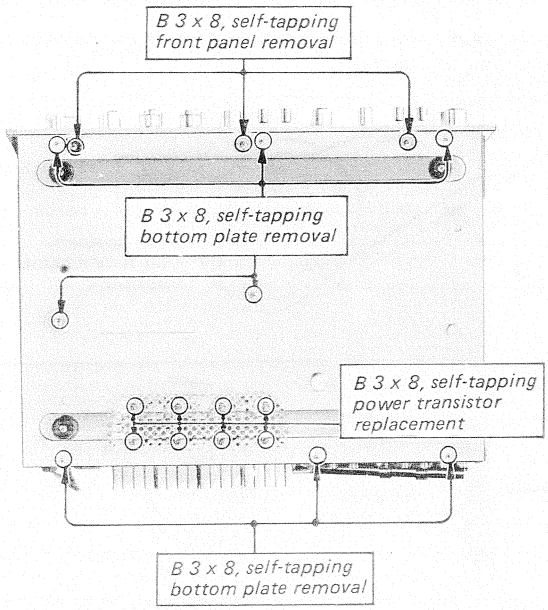


Fig. 2-1. Bottom plate and front panel removal

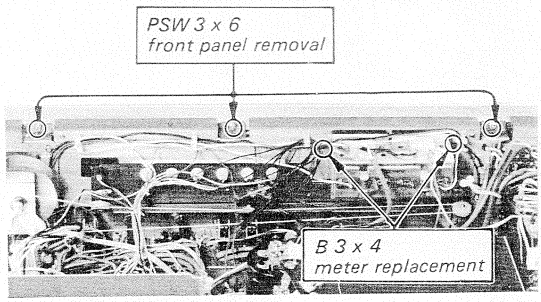


Fig. 2-2. Front panel removal and meter replacement

2-3. POWER TRANSISTOR REPLACEMENT

1. Remove the twelve self-tapping screws shown in Fig. 2-1 and Fig. 2-3.
2. Remove the two screws securing the power transistor to the heat sink.

Note: When replacing the power transistor, apply a coating of a heat-transferring grease to both sides of the mica insulator. Any excess grease squeezed out when the mounting bolts are tightened should be wiped off with a clean cloth. This prevents it from accumulating conductive dust particles that might eventually cause a short.

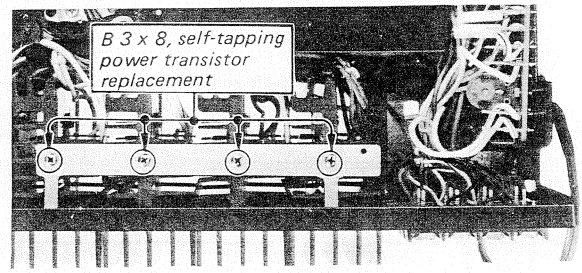


Fig. 2-3. Power transistor replacement

2-4. DIAL GLASS REMOVAL

Remove the five screws shown in Fig. 2-4.

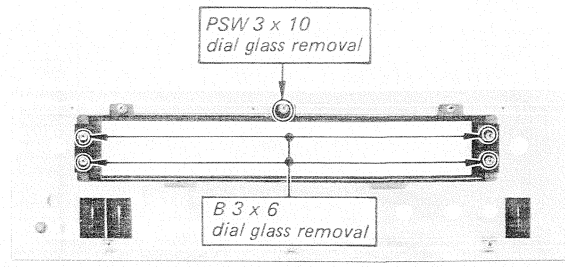


Fig. 2-4. Dial glass removal

2-5. METER REPLACEMENT

1. Remove the meter lamp shade by taking out the two screws shown in Fig. 2-2.
2. Remove the meter.

2-6. DIAL CORD STRINGING

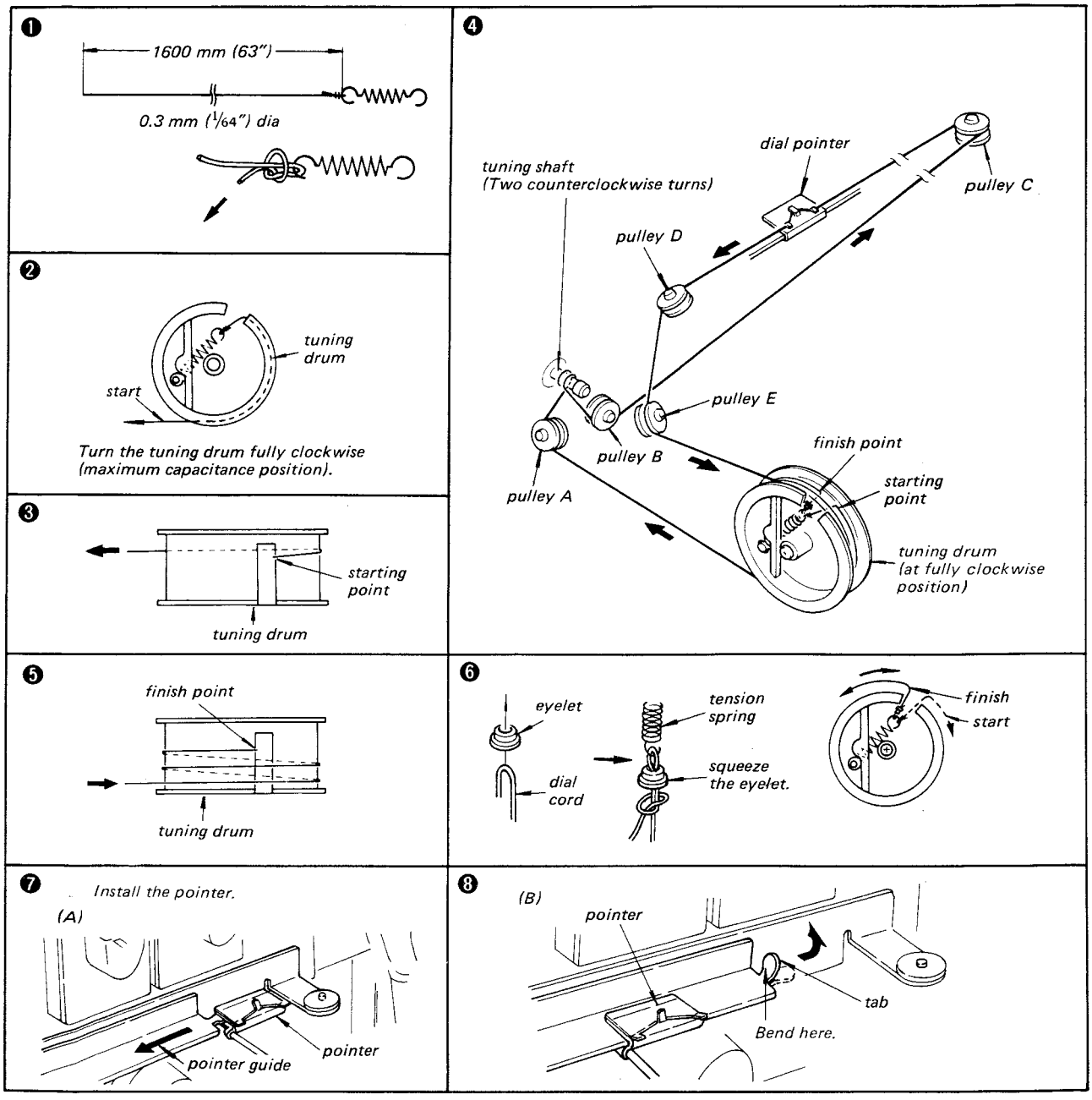


Fig. 2-5 Dial cord stringing

2-7. DIAL CALIBRATION

Tune the receiver to the local station. Move the pointer to the position where the dial indication coincides with the local station's carrier frequency. Apply a drop of contact cement to it.

2-8. VOLUME CONTROL REPLACEMENT

1. Remove the power amp/power supply board bracket (c) by taking out the screw as shown in Fig. 2-6.
2. Remove the front panel as described in Procedure 2-2.
3. Remove the nut securing the VOLUME control to the front subchassis shown in Fig. 2-7.
4. Remove the loudness control board along with the VOLUME control.

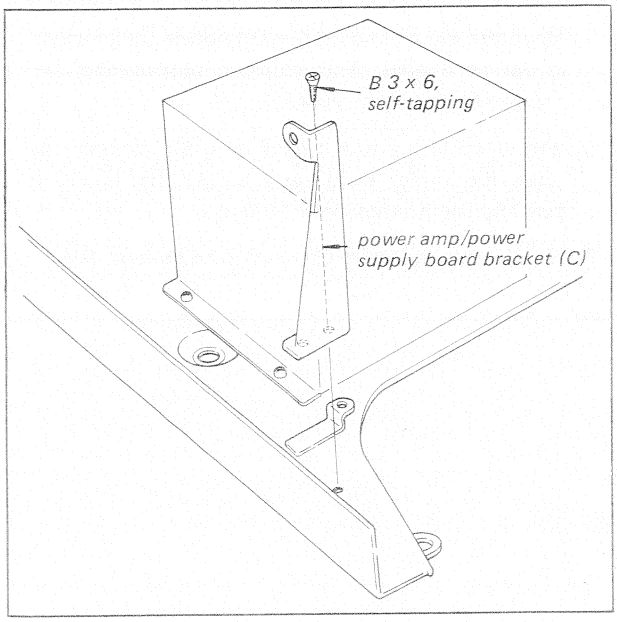


Fig. 2-6. VOLUME control replacement

2-9. CONTROL, JACK AND SWITCH REPLACEMENT

Prepare for replacing any of the controls, jacks or switches by removing the front panel described in Procedure 2-2.

Note: Before removing the front subchassis, fasten the dial cord to the drum, pulleys with cellophane tape. This helps you to re-string the dial cord.

POWER, MIC MIXING Switches and HEADPHONE, MIC Jacks

1. Remove two screws or the nut securing the defective switch or jack to front subchassis as shown in Fig. 2-7.
2. Unsolder the leads of defective switch or jack.
3. Install a new one.

SPEAKER, FILTER, MODE and FUNCTION Switches

1. Remove the retaining ring securing the defective switch, located at the back side of control board bracket, as shown in Fig. 2-8.
2. Pull out the shaft of the defective switch with a screwdriver as shown in Fig. 2-9.

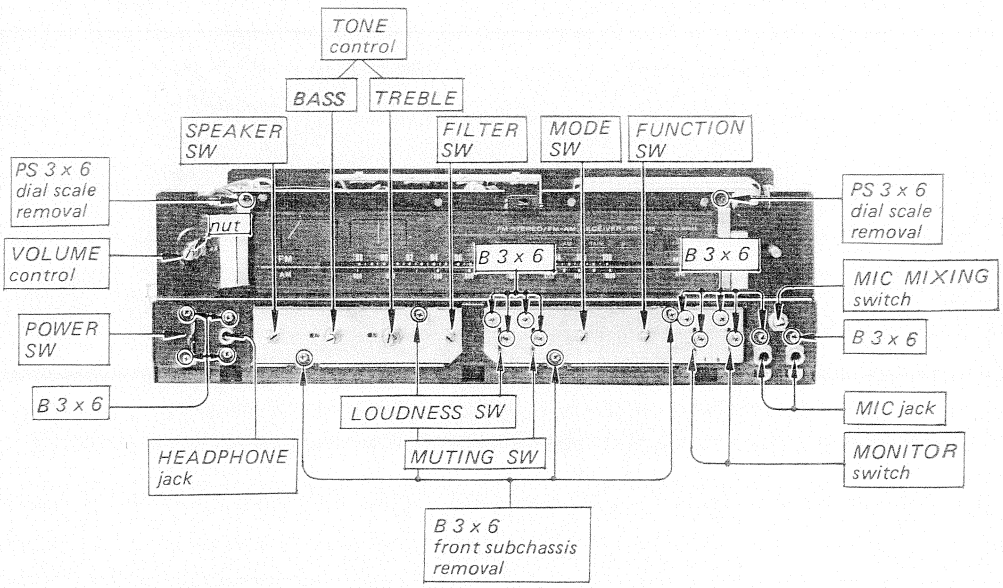


Fig. 2-7. Control, jack and switch replacement (1)

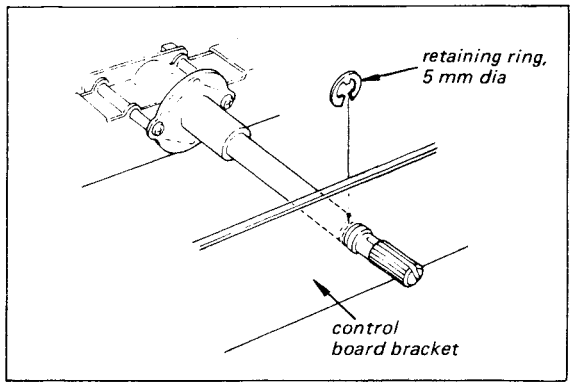


Fig. 2-8. Control board removal

3. Remove the bottom plate as described in Procedure 2-1.
4. With a soldering iron having a solder-sucking tip, clean the solder from each lug of the defective switch and the printed circuit board.
5. Remove the defective switch and install a new one.

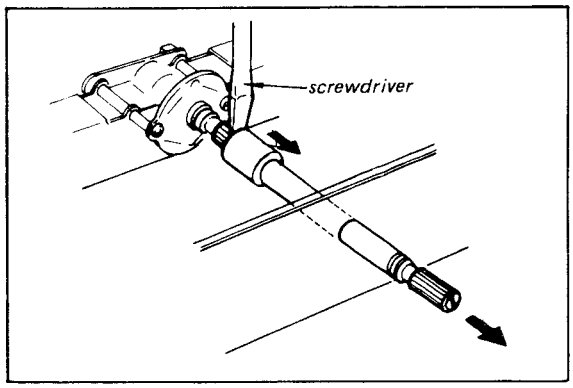


Fig. 2-9. Switch shaft removal

LOUDNESS, MUTING, MONITOR Switches and TONE controls

1. Remove the four screws (B 3 x 6) securing the control board bracket to the front subchassis as shown in Fig. 2-7.
2. Remove the three screws (PSW 3 x 6) securing the control board to the chassis as shown in Fig. 2-10.
3. Remove the nut securing the defective control or two screws (B 3 x 6) securing the defective switch to the control board bracket as shown in Fig. 2-7.
4. Remove the bottom plate as described in Procedure 2-1.
5. Move the control board toward power transformer as far as it goes. This helps in unsoldering the defective part on the board.
6. With a soldering iron having a solder-sucking tip, clean the solder from each lug of the defective part and the printed circuit board.
7. Remove the defective part and install a new one.

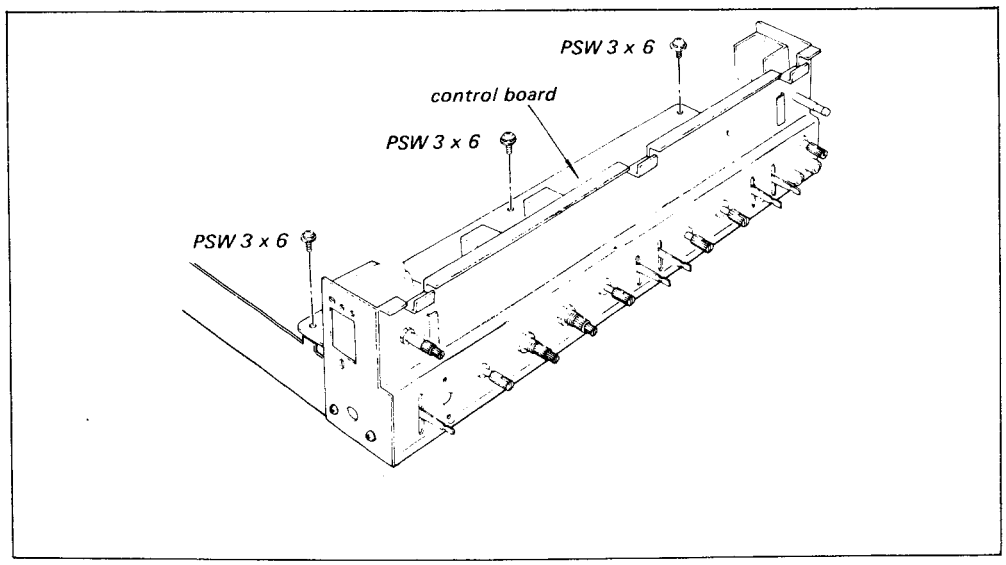


Fig. 2-10. Control, jack and switch replacement (2)

SECTION 3
ALIGNMENTS AND ADJUSTMENTS

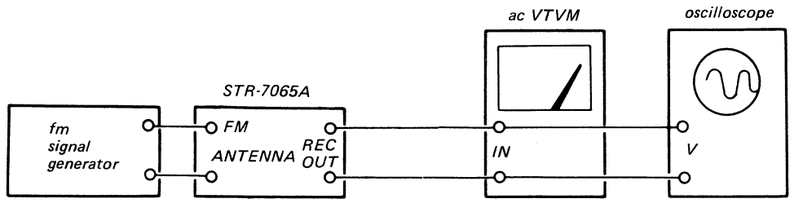
3-1. FM I-F STRIP ALIGNMENT

The center frequency (color code) of CF1 and CF2 should coincide with each other.

Note: It makes no difference, if the center frequency of the new filters is not the same as that of the defective ones.

Fm i-f ceramic filter

Test setup:



Carrier frequency . . . . . 98 MHz
Modulation . . . . . Fm 400 Hz, 75 kHz deviation (100 %)
Output level . . . . . 30 μV (30 dB) terminated

Preparation:

Short the AFC circuit to ground as shown in Fig. 3-1.

Procedure:

1. Precisely tune the receiver to the SG frequency.
2. Adjust IFT101 (See Fig. 3-2.) for maximum deflection on the TUNER INPUT meter.
3. Carefully adjust IFT101 so that maximum reading on the TUNER INPUT meter always coincides with null-point of the TUNING meter.
4. Adjust the core (primary side) of IFT201 for maximum output on the VTVM, and adjust it so that the VTVM indication falls as the receiver is detuned in either direction (maximum output corresponds to null-point on the TUNING meter).

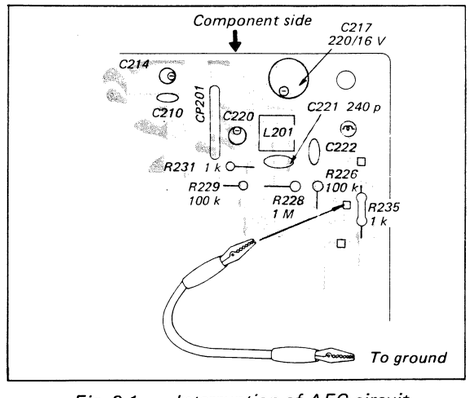


Fig. 3-1. Interruption of AFC circuit.

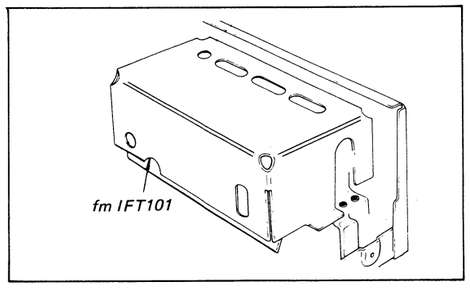


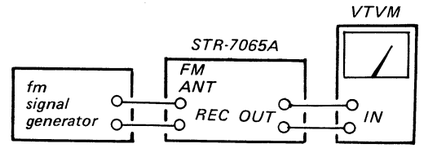
Fig. 3-2. Adjustment parts location

3-2. FM DISCRIMINATOR ALIGNMENT

1. Detune the receiver.
2. Turn the core (secondary side) of IFT201 for null-point reading on the TUNING meter.

3-3. MUTING ADJUSTMENT

Test Setup:



FM Signal Generator Setting:
Carrier frequency: 98 MHz
Modulation: Fm 400 Hz, 75 kHz deviation (100 %)
Output level: 60 dB (1,000 μV)

Preparation:

Short the AFC circuit to ground as shown in Fig. 3-1 on Page 9.

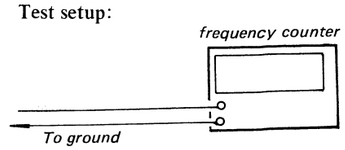
Procedure:

1. Tune the receiver to 98 MHz.
2. Adjust IFT202 for proper muting operation. Muting should begin at point equidistant from zero center.

3-4. 19 kHz ADJUSTMENT

A) With frequency counter

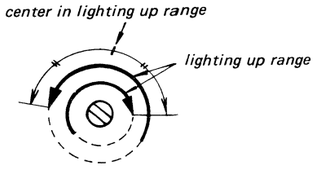
Test setup:



1. Tune the receiver to 98 MHz.
2. Adjust RV301 for 19 kHz ± 100 Hz on the counter.

B) Without frequency counter

1. Tune the set to FM stereo signals.
2. Turn RV301 clockwise and counterclockwise and secure RV301 to the center in lighting up range of stereo lamp as shown below.



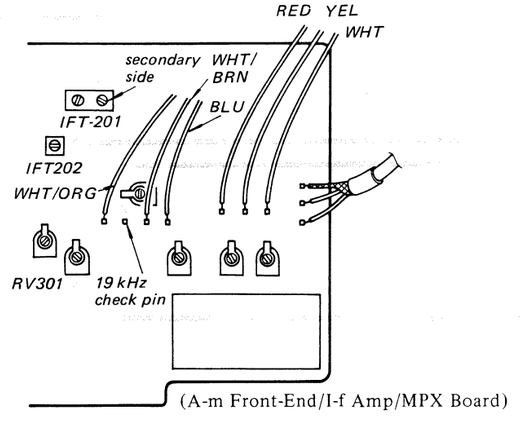
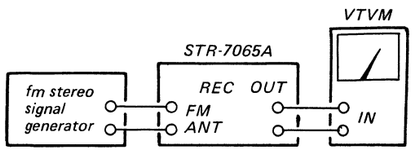


Fig. 3-3 Adjustment parts location

3-5. FM STEREO SEPARATION ADJUSTMENT

Test Setup:



FM Stereo Signal Generator Setting:

Carrier frequency:	98 MHz
Output level:	60 dB (1,000 μV)
Mode:	Stereo
Audio (400 Hz) Mod:	67.5 kHz (90 %)
Pilot (19 kHz) Mod:	7.5 kHz (10 %)

Procedure:

1. Set the signal generator input selector to the left.
2. Tune the receiver to 98 MHz.
3. Adjust RV302 for maximum output on the VTVM at the left channel, and record the output level.
4. Record the residual signal level when the stereo signal generator input selector is to the right.

   Note: The output level to residual-level ratio represents the separation.
5. Measure the separation at the right channel.
6. Readjust RV302 for minimum difference between left and right channel separation.

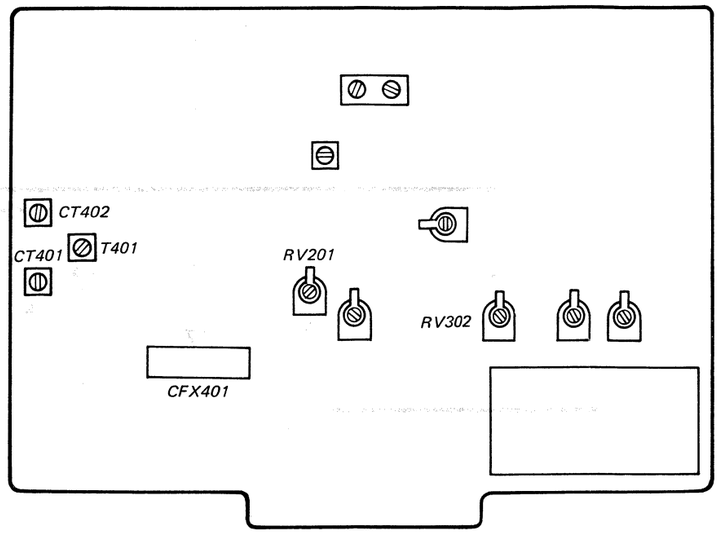


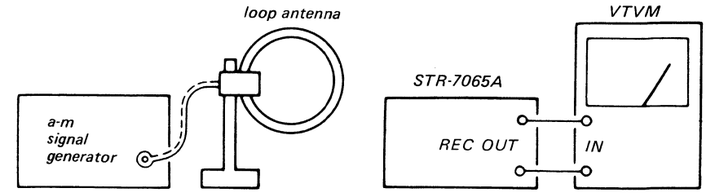
Fig. 3-4. Adjustment parts location

3-7. A-M I-F STRIP ALIGNMENT

Note: The i-f transformers (CFX401) in the a-m i-f amplifier circuit are adjusted at the factory, so very little adjustment is necessary in the field even if replacing any of these i-f transformers.

3-8. AM FREQUENCY COVERAGE AND AM TRACKING ALIGNMENT

Test Setup:



Adjust for maximum reading.

Procedure:

AM FREQUENCY COVERAGE
550 kHz (modulated)
1,600 kHz (modulated)

AM TRACKING
600 kHz (modulated)
1,400 kHz (modulated)

L901
A-m Ferrite-rod antenna

3-6. FM FREQUENCY COVERAGE ALIGNMENT

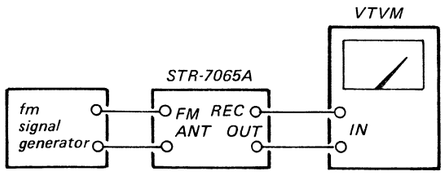
CAUTION

Never attempt alignment of the front-end section except for the frequency-coverage and dial-calibration adjustments. The front-end section of the receiver has been carefully adjusted at the factory. If an rf-stage adjustment is required, ask your nearest SONY Service Station to send your unit to the Factory Service Center for a complete front-end alignment.

Preparation:

1. Short the AFC circuit to ground as shown in Fig. 3-1.
2. Before starting this alignment, the fm discriminator alignment should be performed, and that the dial is mechanically calibrated as described in procedure 2-7 on Page 6.

Test Setup:



Adjust for maximum reading.

Procedure:

FM FREQUENCY COVERAGE ALIGNMENT
87.5 MHz (modulated)
108 MHz (modulated)

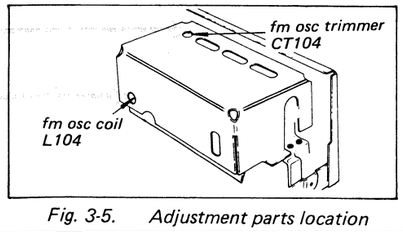
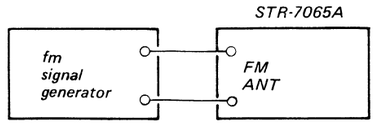


Fig. 3-5. Adjustment parts location

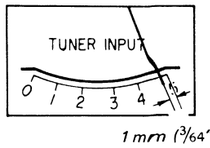
3-9. TUNER INPUT METER CALIBRATION

Test Setup:



FM Signal Generator Setting:

Carrier frequency:	98 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	60 dB (1,000 μV)



1 mm (3/64")

Procedure:

1. Precisely tune the receiver to 98 MHz.
2. Adjust RV201 for specified position on the SIGNAL meter.

DC BIAS ADJUSTMENT

Note: Allow about five minutes for warm-up.

Test Setup:

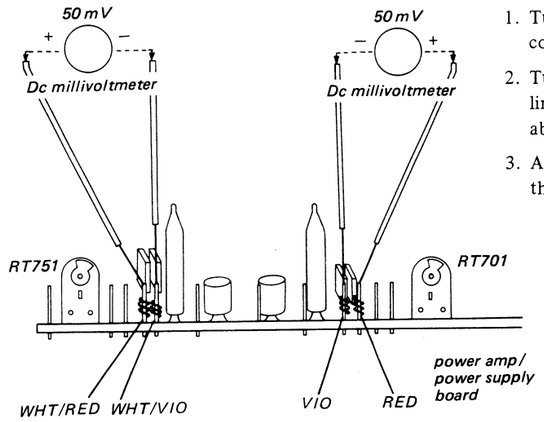
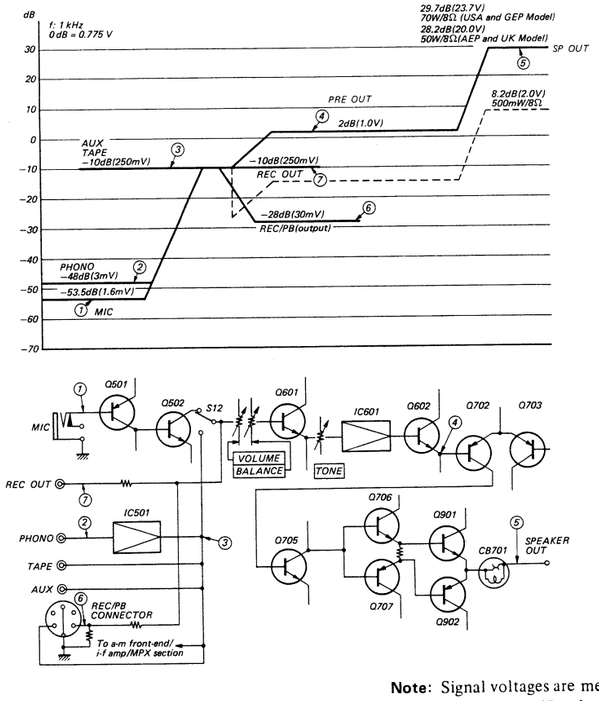


Fig. 3-6. Power-amplifier adjustment setup

Procedure:

1. Turn RT701 (L-CH) and RT751 (R-CH) fully counterclockwise.
2. Turn on the POWER switch, and increase the ac line voltage up to the rated value by using a variable transformer.
3. Adjust RT701 and RT751 for 50 mV reading on the meter.

LEVEL DIAGRAM

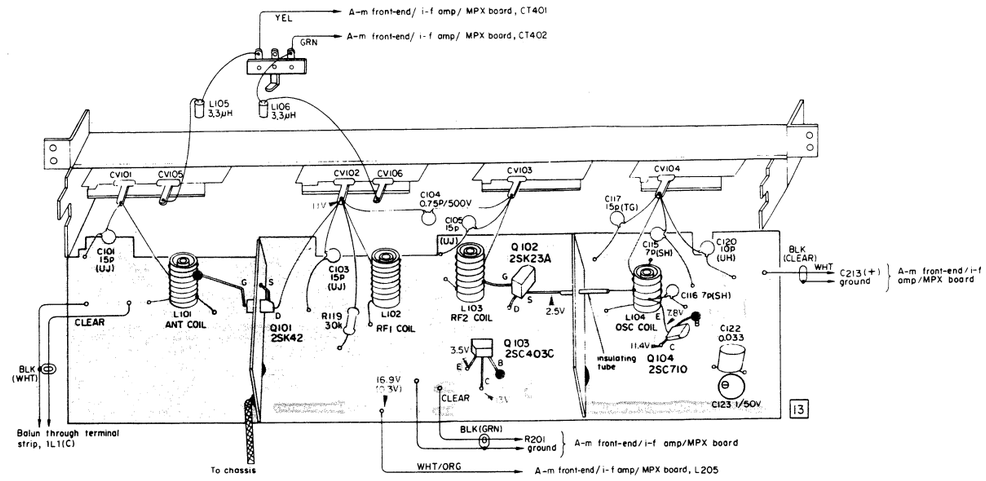


Note: Signal voltages are measured with ac VTVM and expressed in dB referred to 0.775 V, 1 kHz.

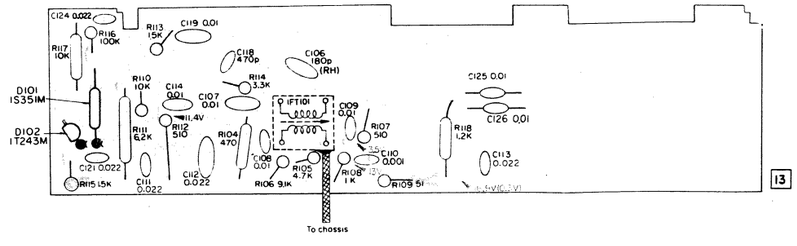
SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM – Fm Front-End Board –

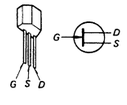
– Conductor Side –



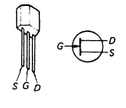
– Component Side –



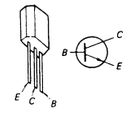
2SK42



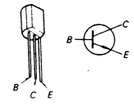
2SK23A



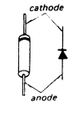
2SC403C



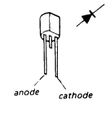
2SC710



1S351M



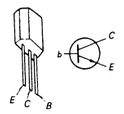
1T243M



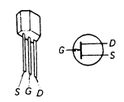
4-2. MOUNTING DIAGRAM – A-m Front-End/I-f Amplifier/MPX Board –

– Conductor Side –

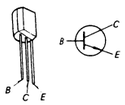
2SC634A
2SC632A
2SC403C



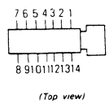
2SK23A



2SC710



CX-0412

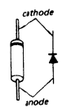


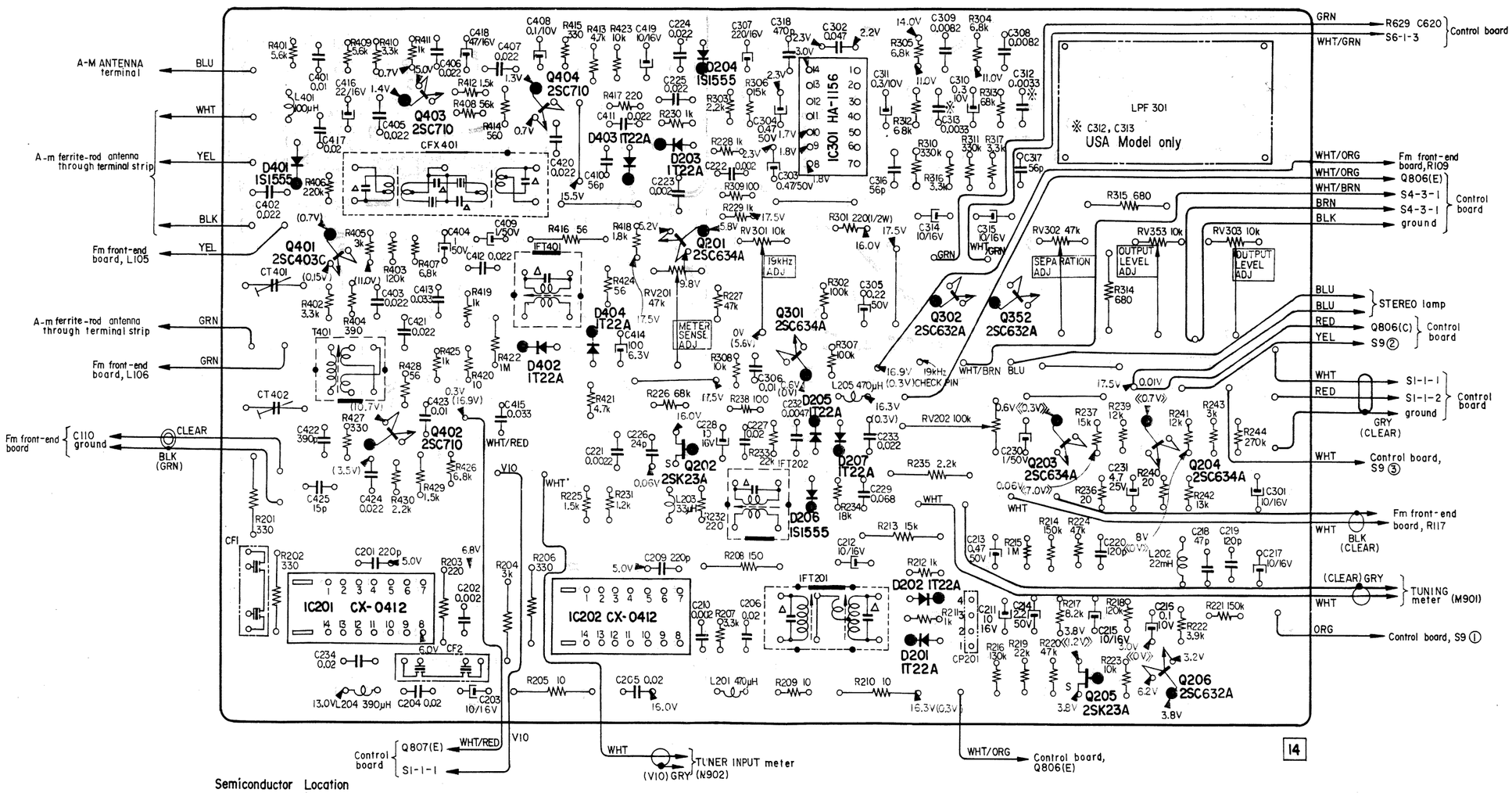
(Top view)

HA-1156

(Top view)

1T22A
1S1555



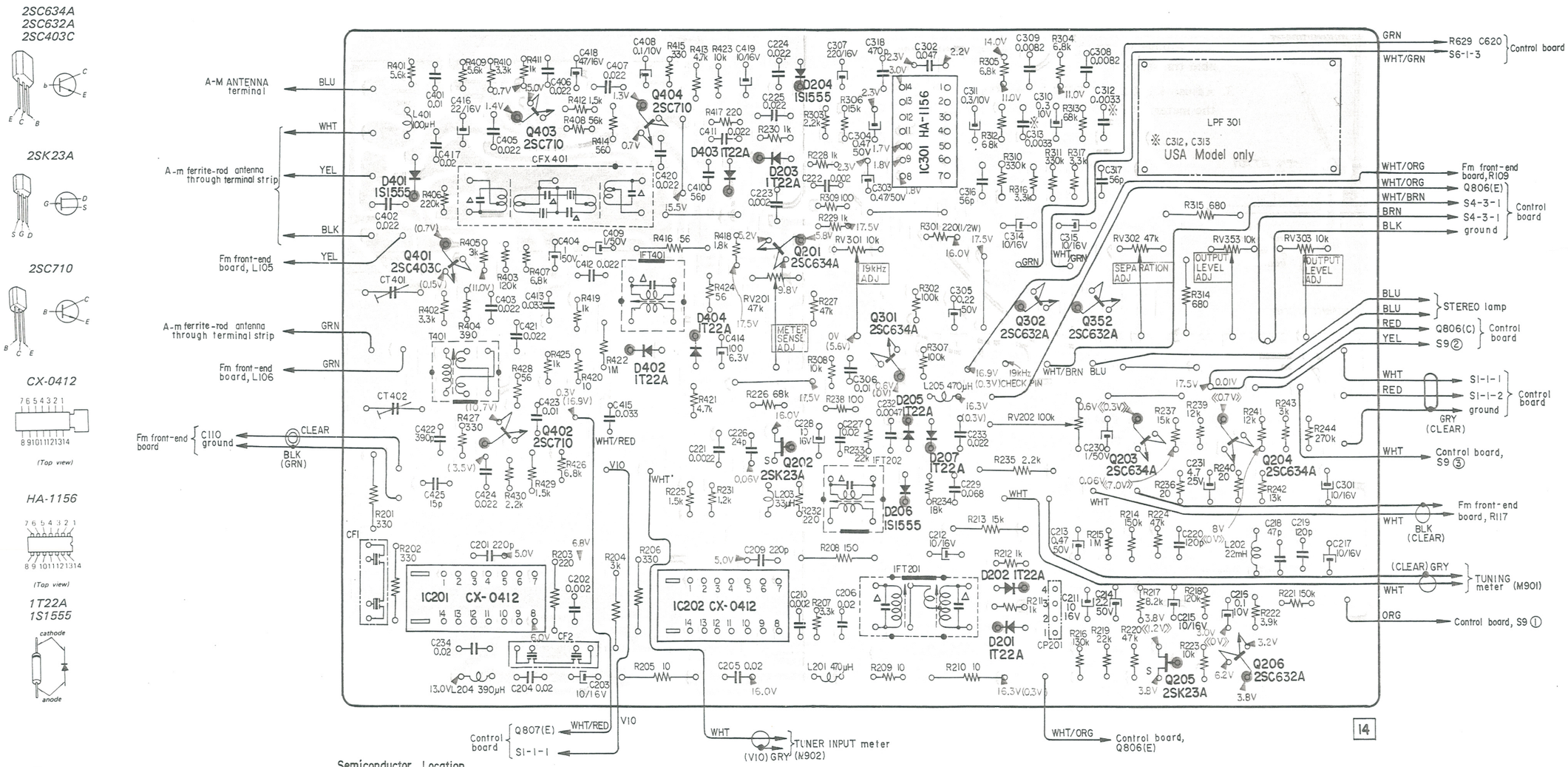


Semiconductor Location

| | | |

4-2. MOUNTING DIAGRAM — A-m Front-End/I-f Amplifier/MPX Board —

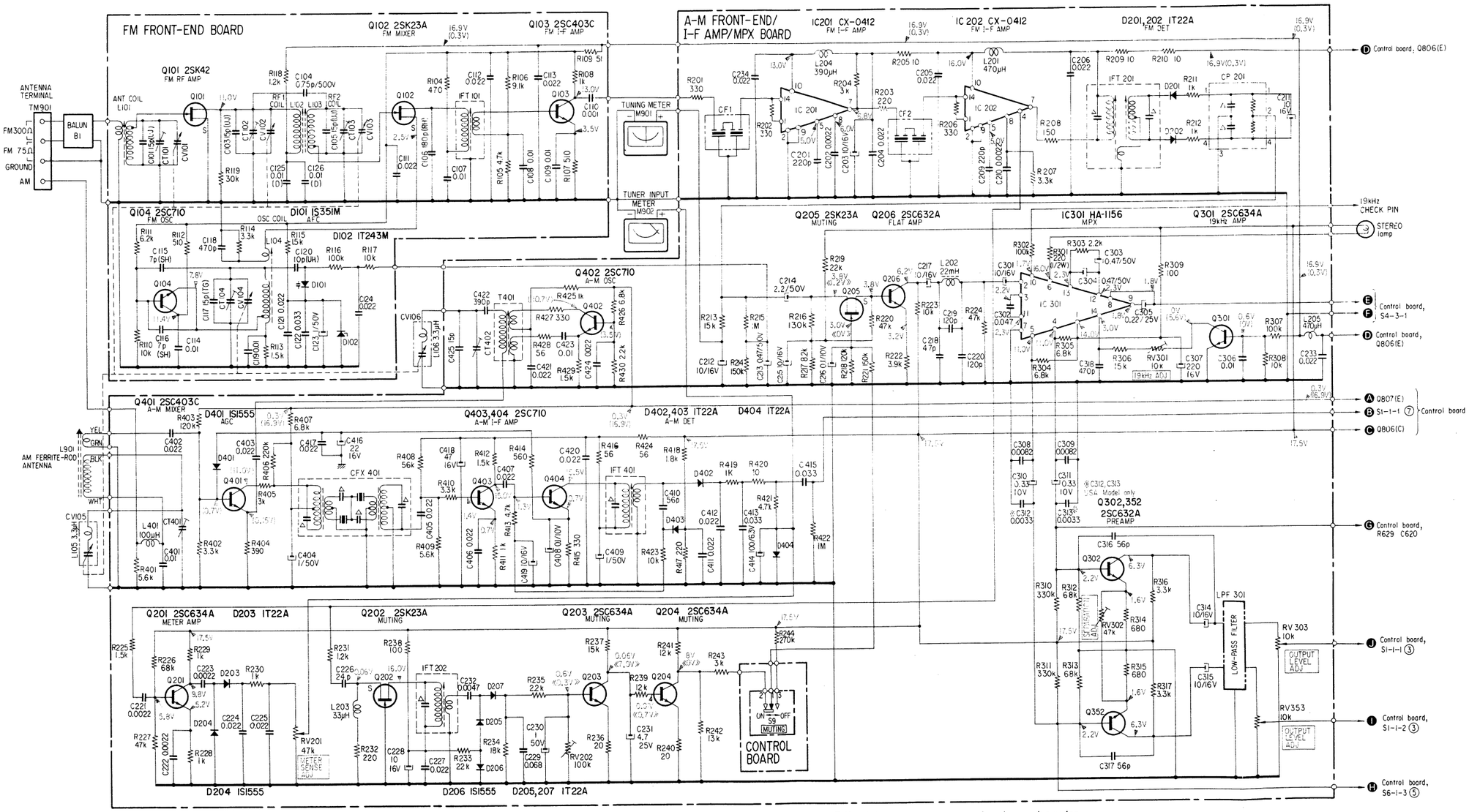
— Conductor Side —



Semiconductor Location

| | | |

4-3. SCHEMATIC DIAGRAM – Tuner Section –

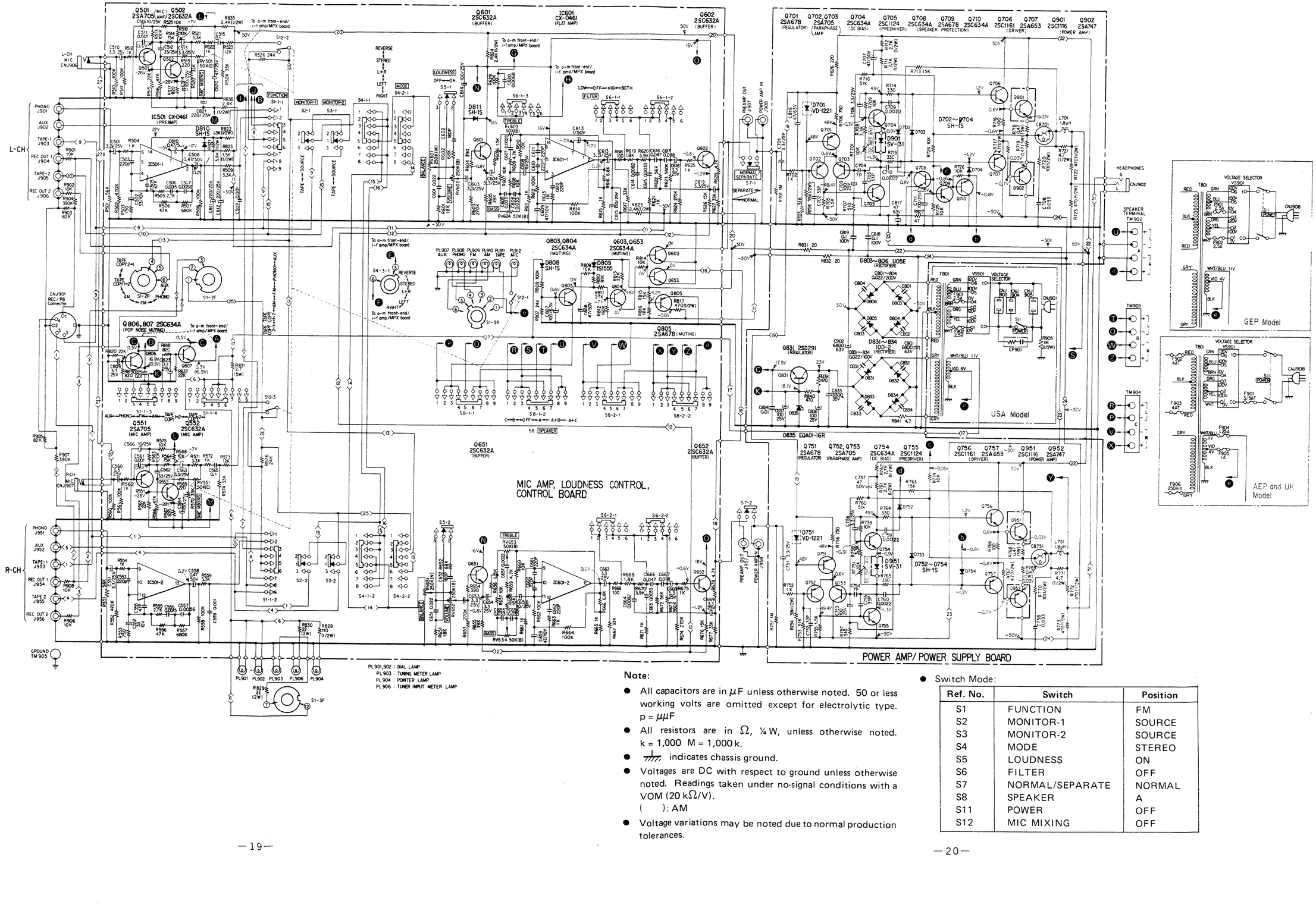


Note:

- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. p = μμF
- All resistors are in Ω, ¼ W, unless otherwise noted. k = 1,000 M = 1,000 k.
- △ indicates internal components.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 kΩ/V).
  ( ): AM, ≪ ≫: MUTING ON
- Voltage variations may be noted due to normal production tolerances.
- Switch Mode:

Ref. No.	Switch	Position
S9	MUTING	ON

4-4. SCHEMATIC DIAGRAM—Audio Amplifier Section—


MIC AMP, LOUDNESS CONTROL, CONTROL BOARD
POWER AMP/POWER SUPPLY BOARD
USA Model
GEP Model
AEP and UK Model
PL901,902 : DIAL LAMP
PL903 : TUNING METER LAMP
PL904 : POINTER LAMP
PL906 : TUNER INPUT METER LAMP

Note:

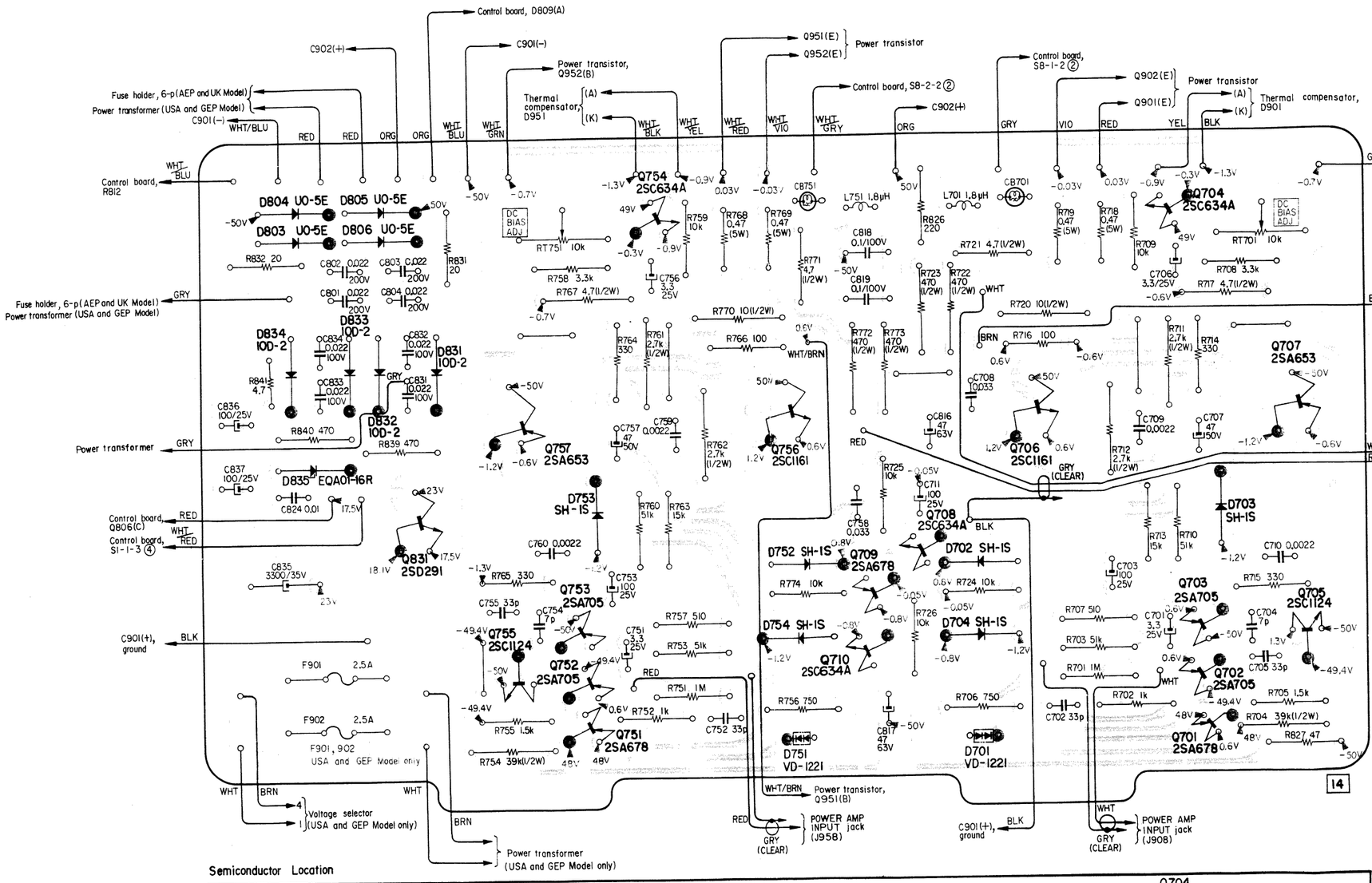
- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. p = μμF
- All resistors are in Ω, ¼ W, unless otherwise noted. k = 1,000 M = 1,000 k.
- ⏚ indicates chassis ground.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 kΩ/V).
  ( ): AM
- Voltage variations may be noted due to normal production tolerances.

- Switch Mode:

Ref. No.	Switch	Position
S1	FUNCTION	FM
S2	MONITOR-1	SOURCE
S3	MONITOR-2	SOURCE
S4	MODE	STEREO
S5	LOUDNESS	ON
S6	FILTER	OFF
S7	NORMAL/SEPARATE	NORMAL
S8	SPEAKER	A
S11	POWER	OFF
S12	MIC MIXING	OFF

4-5. MOUNTING DIAGRAM — Power Amplifier/Power Supply Board —

— Conductor Side —

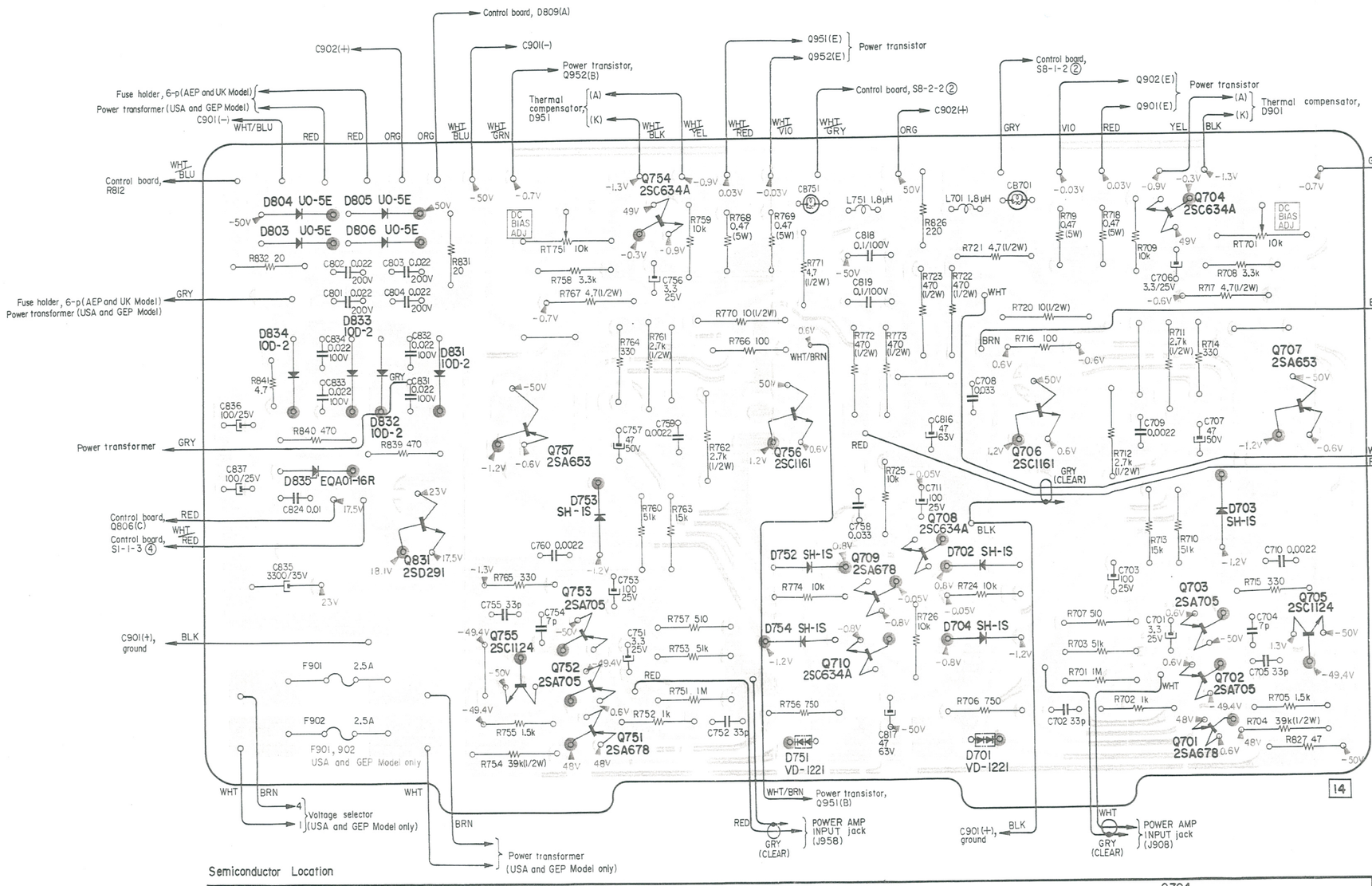


Semiconductor Location

| | | |

4-5. MOUNTING DIAGRAM — Power Amplifier/Power Supply Board —

— Conductor Side —



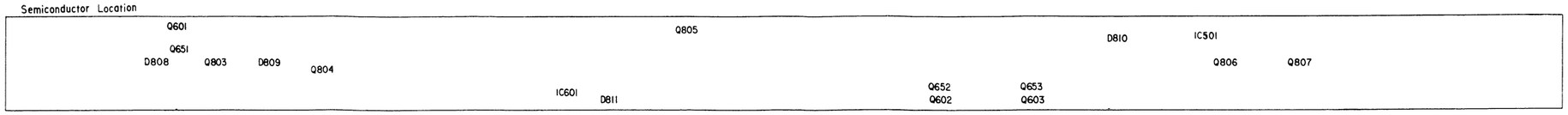
Semiconductor Location

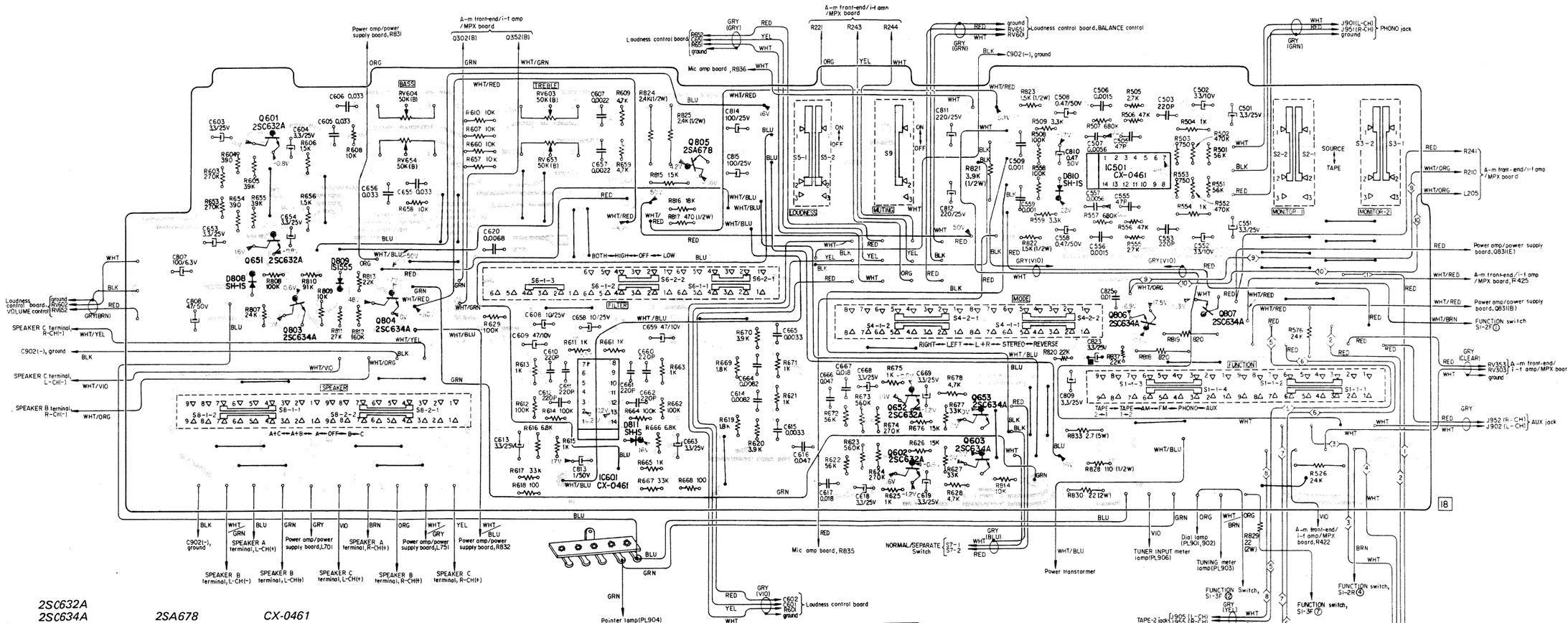
| | | |

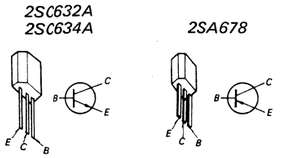
4-6. MOUNTING DIAGRAM – Control Board –

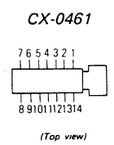
– Conductor Side –

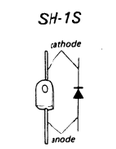
Semiconductor Location

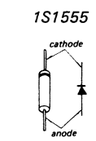


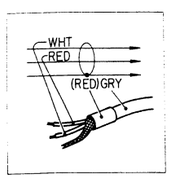










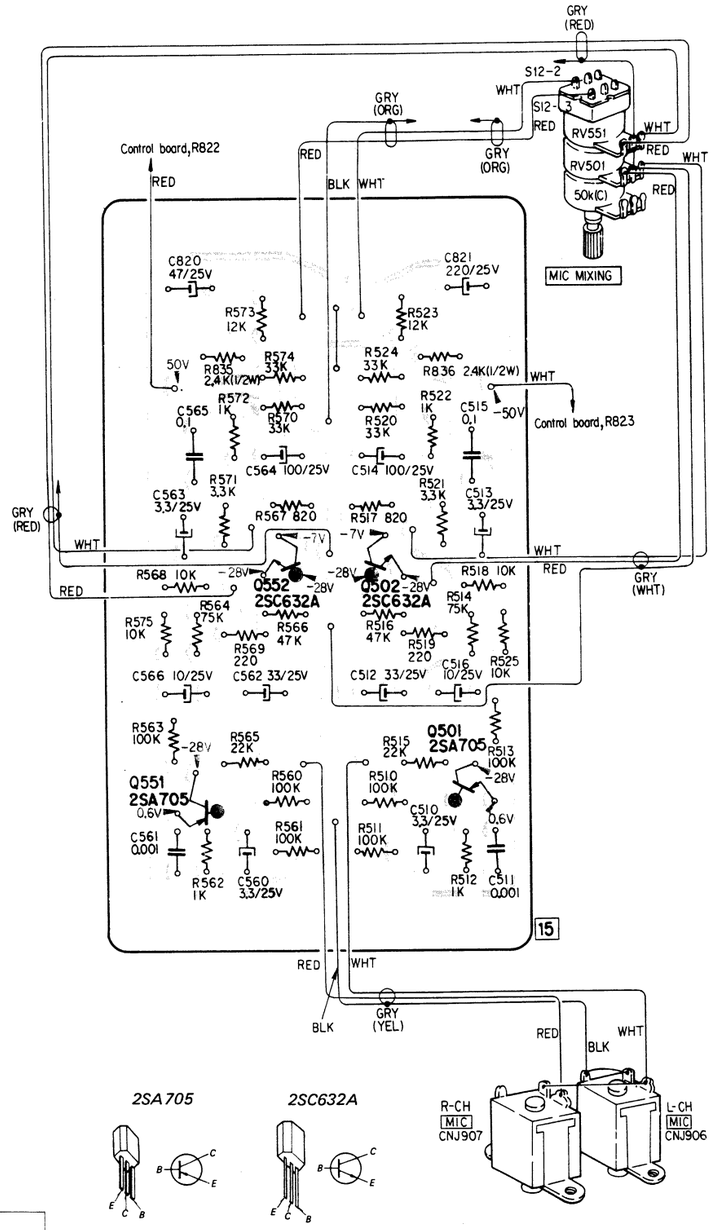


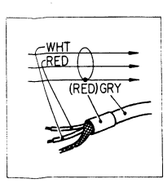
Note:

- ■ indicates parts on the conductor side.
- ●– indicates lead wire connection on the conductor side.
- ○– indicates lead wire connection through the component side.

4-7. MOUNTING DIAGRAM – MIC Amp Board –

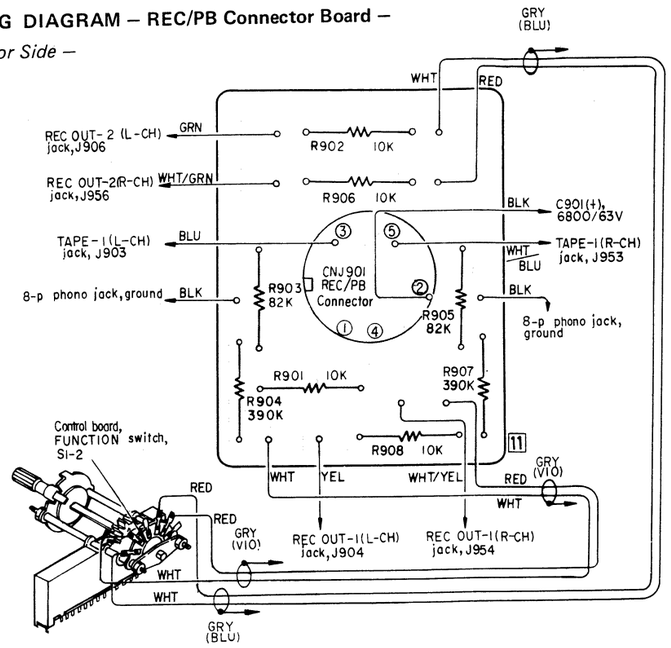
– Conductor Side –

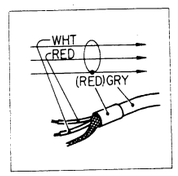




4-8. MOUNTING DIAGRAM – REC/PB Connector Board –

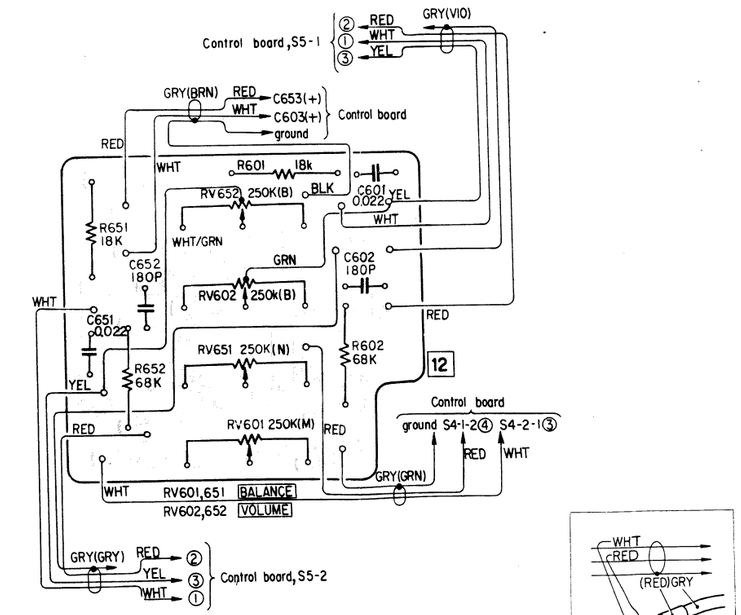
– Conductor Side –

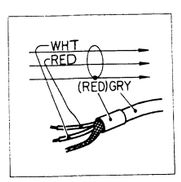




4-9. MOUNTING DIAGRAM – Loudness Control Board –

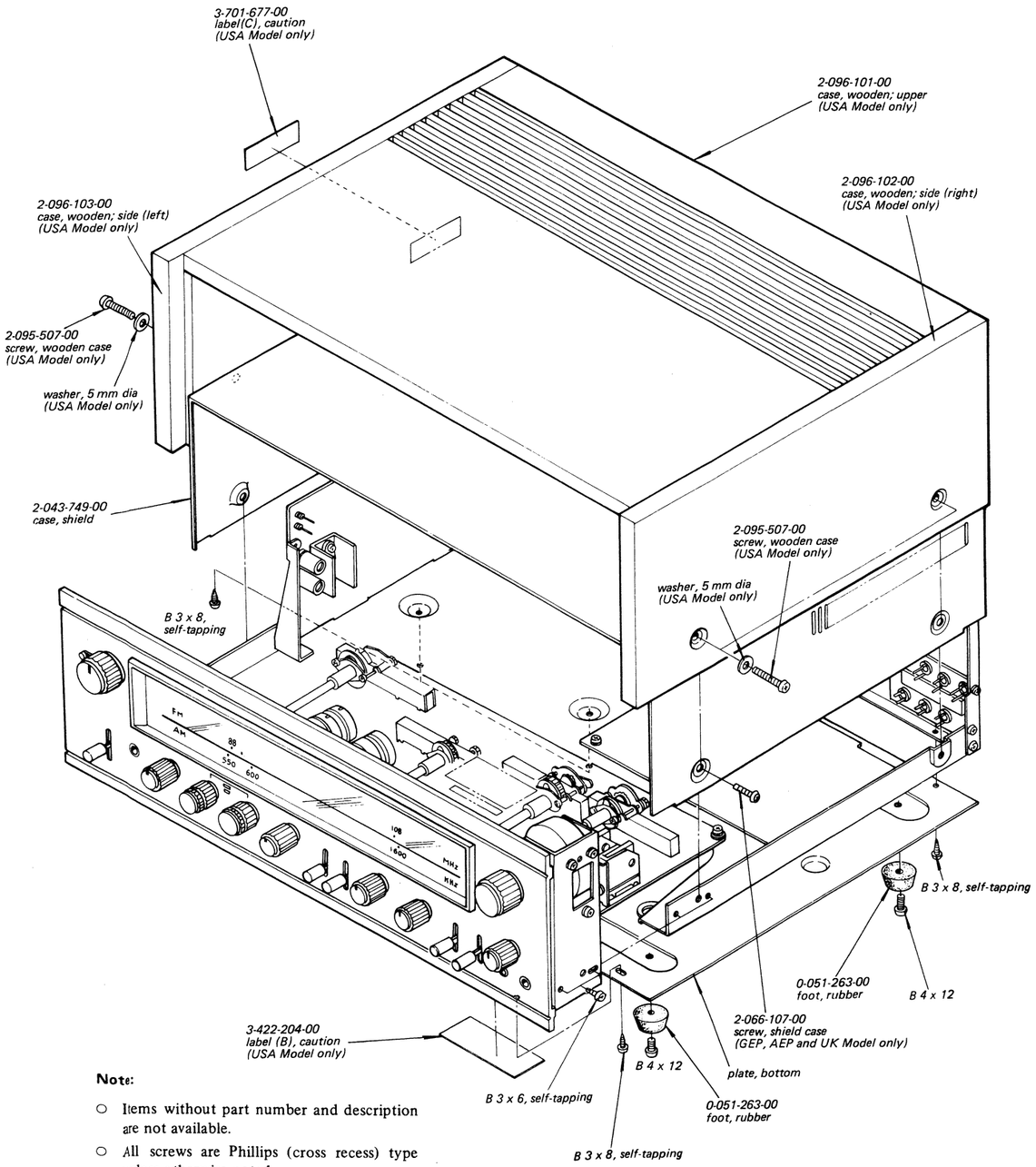
– Conductor Side –





SECTION 5
EXPLODED VIEWS

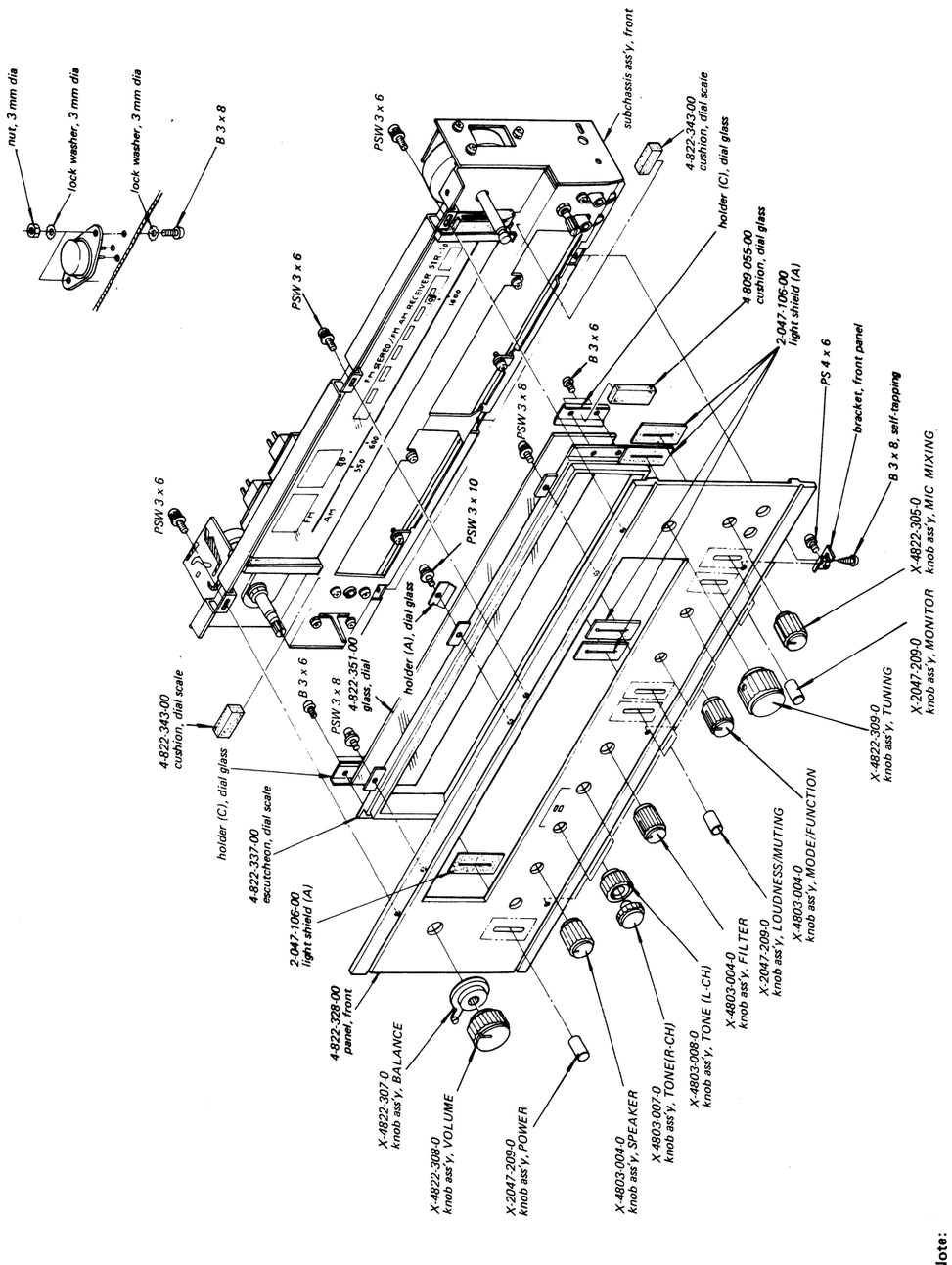
(1)



Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

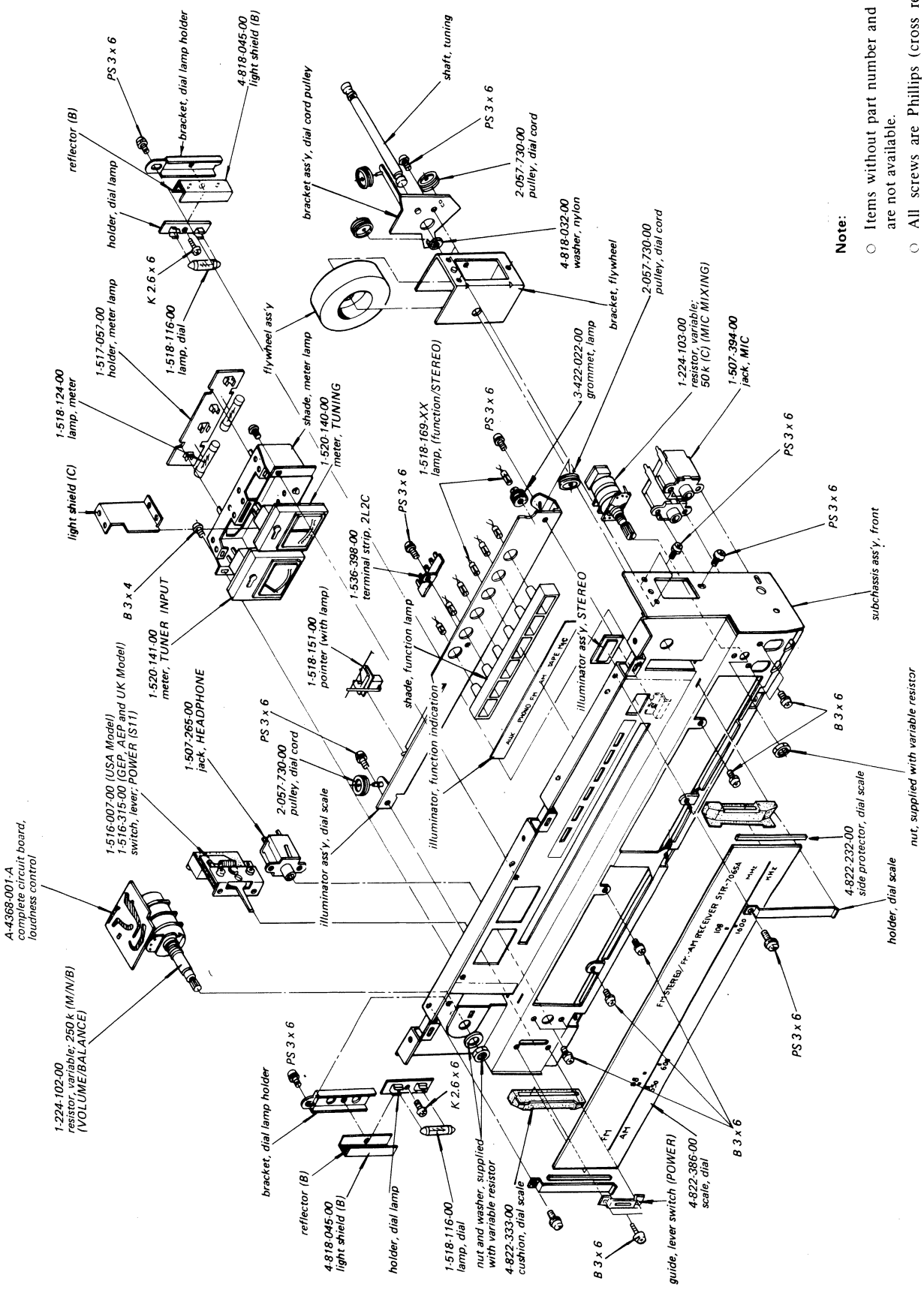
(2)



Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

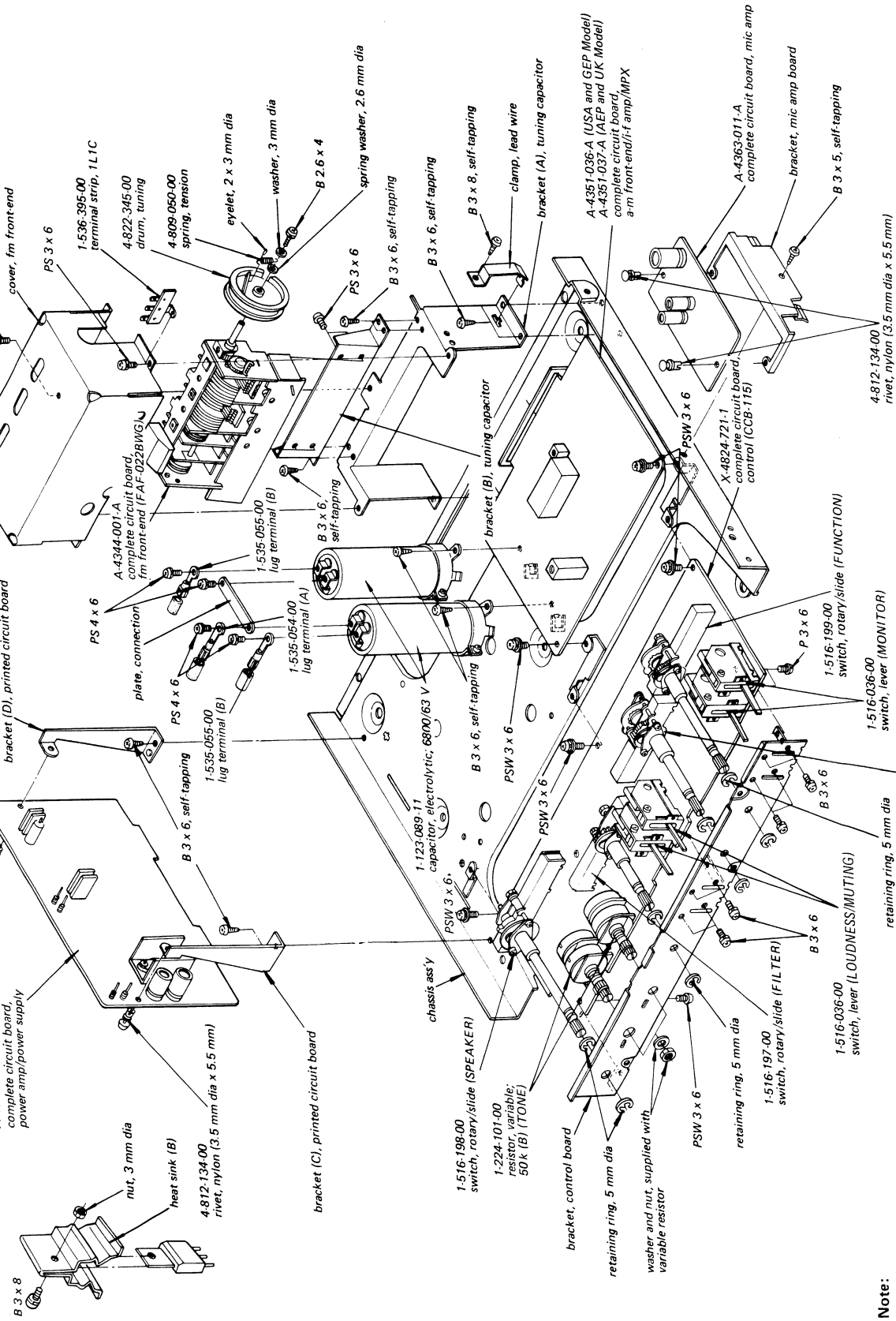
(3)



Note:

- Items without part number and description are not available.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

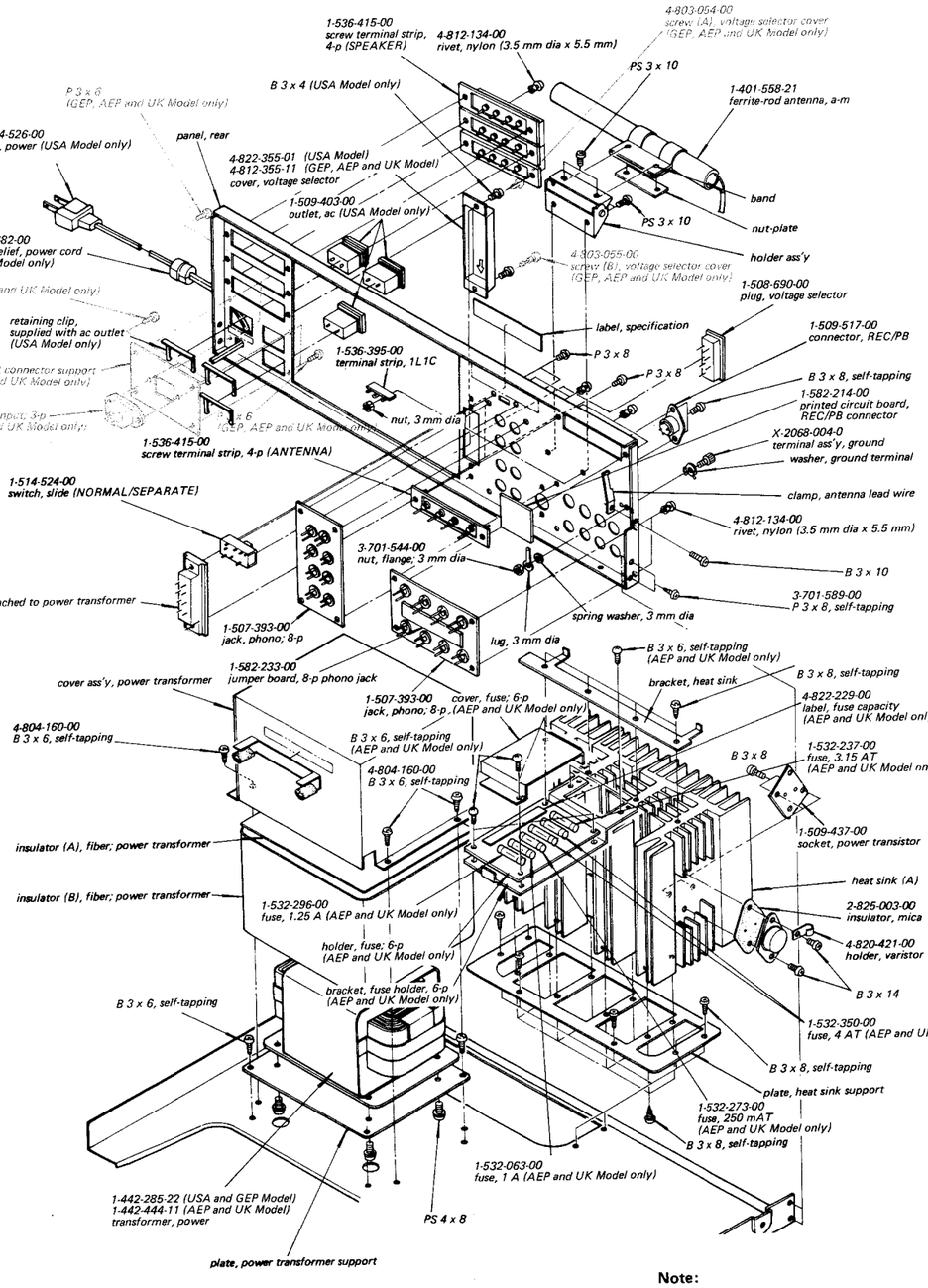
(4)


PS 3 x 6
cover, fm front end
PS 3 x 6
1-536-395-00 terminal strip, 1L1C
4-822-345-00 drum, tuning
4-809-050-00 spring, tension
eyelet, 2 x 3 mm dia
washer, 3 mm dia
B 2.6 x 4
spring washer, 2.6 mm dia
PS 3 x 6
B 3 x 6, self-tapping
B 3 x 6, self-tapping
B 3 x 8, self-tapping
clamp, lead wire
bracket (A), tuning capacitor
A-4351-036-A (USA and GEP Model)
A-4351-037-A (AEP and UK Model)
complete circuit board, a·m front-end/i·f amp/MPX
A-4363-011-A complete circuit board, mic amp
bracket, mic amp board
B 3 x 5, self-tapping
4-812-134-00 rivet, nylon (3.5 mm dia x 5.5 mm)
A-4344-001-A complete circuit board, fm front-end (FAF-022BWG)
1-535-055-00 lug terminal (B)
B 3 x 6, self-tapping
bracket (B), tuning capacitor
PSW 3 x 6
X-4824-721-1 complete circuit board, control (CCB-115)
PS 4 x 6
plate, connection
PS 4 x 6
1-535-055-00 lug terminal (B)
1-535-054-00 lug terminal (A)
B 3 x 6, self-tapping
1-123-089-11 capacitor, electrolytic; 6800/63 V
PSW 3 x 6
PSW 3 x 6
P 3 x 6
1-516-199-00 switch, rotary/slide (FUNCTION)
1-516-036-00 switch, lever (MONITOR)
4-812-134-00 rivet, nylon (3.5 mm dia x 5.5 mm)
bracket (D), printed circuit board
B 3 x 6, self-tapping
1-535-055-00 lug terminal (B)
B 3 x 6
1-516-196-00 switch, rotary/slide (MODE)
A-4388-053-A (GEP Model)
A-4388-054-A (USA Model)
A-4388-055-A (AEP and UK Model)
complete circuit board, power amp/power supply
chassis ass'y
PSW 3 x 6
1-516-198-00 switch, rotary/slide (SPEAKER)
1-224-101-00 resistor, variable; 50 k (B) (TONE)
bracket, control board
retaining ring, 5 mm dia
washer and nut, supplied with variable resistor
PSW 3 x 6
retaining ring, 5 mm dia
1-516-197-00 switch, rotary/slide (FILTER)
B 3 x 6
1-516-036-00 switch, lever (LOUDNESS/MUTING)
retaining ring, 5 mm dia
4-812-134-00 rivet, nylon (3.5 mm dia x 5.5 mm)
bracket (C), printed circuit board
nut, 3 mm dia
heat sink (B)
4-812-134-00 rivet, nylon (3.5 mm dia x 5.5 mm)
B 3 x 8

Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

(5)


1-536-415-00
screw terminal strip, 4-p (SPEAKER)
4-812-134-00
rivet, nylon (3.5 mm dia x 5.5 mm)
4-803-054-00
screw (A), voltage selector cover (GEP, AEP and UK Model only)
PS 3 x 10
B 3 x 4 (USA Model only)
P 3 x 6 (GEP, AEP and UK Model only)
1-401-558-21
ferrite-rod antenna, a-m
1-534-526-00
cord, power (USA Model only)
panel, rear
4-822-355-01 (USA Model)
4-812-355-11 (GEP, AEP and UK Model)
cover, voltage selector
band
1-509-403-00
outlet, ac (USA Model only)
PS 3 x 10
nut-plate
3-701-682-00
strain relief, power cord (USA Model only)
4-803-055-00
screw (B), voltage selector cover (GEP, AEP and UK Model only)
holder ass'y
P 3 x 6 (GEP, AEP and UK Model only)
1-508-690-00
plug, voltage selector
retaining clip, supplied with ac outlet (USA Model only)
label, specification
1-509-517-00
connector, REC/PB
P 3 x 8
1-536-395-00
terminal strip, 1L1C
P 3 x 8
B 3 x 8, self-tapping
1-582-214-00
printed circuit board, REC/PB connector
plate, ac input connector support (GEP, AEP and UK Model only)
1-509-540-00
connector, ac input, 3-p (GEP, AEP and UK Model only)
P 3 x 6 (GEP, AEP and UK Model only)
nut, 3 mm dia
X-2068-004-0
terminal ass'y, ground
washer, ground terminal
1-536-415-00
screw terminal strip, 4-p (ANTENNA)
clamp, antenna lead wire
1-514-524-00
switch, slide (NORMAL/SEPARATE)
4-812-134-00
rivet, nylon (3.5 mm dia x 5.5 mm)
3-701-544-00
nut, flange, 3 mm dia
B 3 x 10
attached to power transformer
3-701-589-00
P 3 x 8, self-tapping
spring washer, 3 mm dia
1-507-393-00
jack, phono, 8-p
lug, 3 mm dia
B 3 x 6, self-tapping (AEP and UK Model only)
1-582-233-00
jumper board, 8-p phono jack
bracket, heat sink
B 3 x 8, self-tapping
cover ass'y, power transformer
1-507-393-00
jack, phono, 8-p
cover, fuse, 6-p (AEP and UK Model only)
4-822-229-00
label, fuse capacity (AEP and UK Model only)
4-804-160-00
B 3 x 6, self-tapping
B 3 x 6, self-tapping (AEP and UK Model only)
B 3 x 8
1-532-237-00
fuse, 3.15 AT (AEP and UK Model only)
4-804-160-00
B 3 x 6, self-tapping
1-509-437-00
socket, power transistor
insulator (A), fiber; power transformer
heat sink (A)
insulator (B), fiber; power transformer
1-532-296-00
fuse, 1.25 A (AEP and UK Model only)
2-825-003-00
insulator, mica
holder, fuse; 6-p (AEP and UK Model only)
4-820-421-00
holder, varistor
bracket, fuse holder, 6-p (AEP and UK Model only)
B 3 x 14
B 3 x 6, self-tapping
1-532-350-00
fuse, 4 AT (AEP and UK Model only)
B 3 x 8, self-tapping
plate, heat sink support
1-532-273-00
fuse, 250 mAT (AEP and UK Model only)
B 3 x 8, self-tapping
1-532-063-00
fuse, 1 A (AEP and UK Model only)
1-442-285-22 (USA and GEP Model)
1-442-444-11 (AEP and UK Model)
transformer, power
PS 4 x 8
plate, power transformer support

Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

SECTION 6
ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
		CIRCUIT BOARDS
	A-4344-001-A	F-m Front-end (FAF-022BWG), complete
	A-4351-036-A	A-m Front-end/I-f Amp/MPX, complete (USA, GEP Model)
	A-4351-037-A	A-m Front-end/I-f Amp/ MPX, complete (AEP, UK Model)
	A-4363-011-A	MIC Amp, complete
	A-4368-001-A	Loudness Control, complete
	A-4388-053-A	Power Amp/Power Supply, complete (GEP Model)
	A-4388-054-A	Power Amp/Power Supply, complete (USA Model)
	A-4388-055-A	Power Amp/Power Supply, complete (AEP, UK Model)
	X-4824-721-1	Control (CCB-115), complete
	1-582-214-00	REC/PB Connector
		SEMICONDUCTORS
		Transistors
Q101		2SK42 (FET)
Q102		2SK23A (FET)
Q103		2SC403C
Q104		2SC710
Q201		2SC634A
Q202		2SK23A (FET)
Q203, 204		2SC634A
Q205		2SK23A (FET)
Q206		2SC632A
Q301		2SC634A
Q302 (352)		2SC632A
Q401		2SC403C
Q402～404		2SC710
Q501 (551)		2SA705
Q502 (552)		2SC632A
Q601 (651)		2SC632A
Q602 (652)		2SC632A
Q603 (653)		2SC634A
Q701 (751)		2SA678
Q702 (752)		2SA705
Q703 (753)		2SA705
Q704 (754)		2SC634A
Q705 (755)		2SC1124
Q706 (756)		2SC1161
Q707 (757)		2SA653
Q708		2SC634A
Q709		2SA678
Q710		2SC634A
Q803, 804		2SC634A
Q805		2SA678
Q806, 807		2SC634A
Q831		2SD291
Q901 (951)		2SC1116
Q902 (952)		2SA747
		ICs
IC201, 202		CX-0412
IC301		HA-1156
IC501		CX-0461
IC601		CX-0461
		Diodes
D101		1S351M
D102		1T243M
D201～203		1T22A
D204		1S1555
D205		1T22A
D206		1S1555
D207		1T22A
D401		1S1555
D402～404		1T22A
D701 (751)		VD-1221

Ref. No.	Part No.	Description
D702 (752)		SH-1S
D703 (753)		SH-1S
D704 (754)		SH-1S
D803～806		UO-5E
D808		SH-1S
D809		1S1555
D810, 811		SH-1S
D831～834		10D-2
D835		EQA01-16R
D901 (951)		SV-31

TRANSFORMERS, COILS AND INDUCTORS

B1	1-417-014-00	Balun
CFX401	1-403-963-11	IFT, a-m (USA, GEP Model)
	1-403-963-21	IFT, a-m (AEP, UK Model)
IFT101	1-403-295-00	IFT, fm
IFT201	1-403-964-00	Transformer, discriminator
IFT202	1-403-299-00	Coil, muting
IFT401	1-403-149-00	IFT, a-m
L101	1-401-489-00	Coil, antenna
L102	1-425-446-00	Coil, rf1
L103	1-425-668-00	Coil, rf2
L104	1-405-377-00	Coil, osc
L105, 106	1-407-184-00	Microinductor, 3.3 μH
L201	1-407-177-00	Microinductor, 470 μH
L202	1-407-418-00	Shielded Inductor, 22 mH
L203	1-407-163-00	Microinductor, 33 μH
L204	1-407-176-00	Microinductor, 390 μH
L205	1-407-177-00	Microinductor, 470 μH
L401	1-407-169-00	Microinductor, 100 μH
L701 (751)	1-407-592-00	Microinductor, 1.8 μH
L901	1-401-558-21	Ferrite-rod Antenna, a-m
T401	1-405-459-00	Coil, a-m osc
T801	1-442-285-22	Transformer, power (USA, GEP Model)
	1-442-444-11	Transformer, power (AEP, UK Model)

CAPACITORS

Capacitors here are in μF, ceramic type unless otherwise noted (p = μμ, elect = electrolytic)
The working voltages of 50 volts or less are omitted except for electrolytic type.

Ref. No.	Part No.	Description		
C101, 103	1-102-880-11	15 p		
C104	1-102-064-11	0.75 p	500 V	
C105	1-102-880-11	15 p		
C106	1-102-848-11	180 p		
C107～109	1-101-923-11	0.01		
C110	1-101-918-11	0.001		
C111～113	1-101-924-11	0.022		
C114	1-101-923-11	0.01		
C115, 116	1-102-875-11	7 p		
C117	1-102-894-11	15 p		
C118	1-102-114-11	470 p		
C119	1-101-118-11	0.01		
C120	1-102-986 11	10 p		
C121	1-101-924-11	0.022		
C122	1-105-679-12	0.033		mylar
C123	1-121-391-11	1	50 V	elect
C124	1-101-924-11	0.022		
C125, 126	1-101-118-11	0.01		
C201	1-102-978-11	220 p		
C202	1-101-919-11	0.0022		
C203	1-121-651-11	10	16 V	elect
C204～206	1-101-924-11	0.022		
C209	1-102-978-11	220 p		
C210	1-101-919-11	0.0022		
C211, 212	1-121-651-11	10	16 V	elect
C213	1-121-726-11	0.47	50 V	elect
C214	1-121-450-11	2.2	50 V	elect
C215	1-121-651-11	10	16 V	elect
C216	1-127-019-11	0.1	10 V	solid aluminum
C217	1-121-651-11	10	16 V	elect
C218	1-101-880-11	47 p		
C219, 220	1-102-816-11	120 p		
C221～223	1-101-919-11	0.0022		
C224, 225	1-101-924-11	0.022		
C226	1-102-960-11	24 p		
C227	1-101-924-11	0.022		
C228	1-121-651-11	10	16 V	elect
C229	1-105-683-12	0.068		mylar
C230	1-121-391-11	1	50 V	elect
C231	1-121-395-11	4.7	25 V	elect
C232	1-105-509-12	0.0047		mylar
C233, 234	1-101-924-11	0.022		
C301	1-121-651-11	10	16 V	elect
C302	1-105-681-12	0.047		mylar
C303, 304	1-121-726-11	0.47	50 V	elect
C305	1-127-091-11	0.22	25 V	solid aluminum
C306	1-101-923-11	0.01		
C307	1-121-421-11	220	16 V	elect
C308, 309	1-105-512-12	0.0082		mylar
C310, 311	1-127-021-11	0.33	10 V	solid aluminum
C312, 313	1-105-507-12	0.0033 (USA Model only)		mylar
C314, 315	1-121-916-11	10	16 V	elect
C316, 317	1-101-884-11	56 p		
C318	1-103-717-11	470 p		styrol
C401	1-105-673-12	0.01		mylar
C402, 403	1-105-677-12	0.022		mylar
C404	1-121-391-11	1	50 V	elect
C405	1-105-677-12	0.022		mylar
C406	1-101-924-11	0.022		
C407	1-105-677-12	0.022		mylar
C408	1-127-019-11	0.1	10 V	solid aluminum
C409	1-121-391-11	1	50 V	elect
C410	1-101-884-11	56 p		
C411	1-101-924-11	0.022		
C412	1-105-677-12	0.022		mylar
C413	1-105-679-12	0.033		mylar
C414	1-121-413-11	100	6.3 V	elect
C415	1-105-679-12	0.033		mylar
C416	1-121-479-11	22	16 V	elect
C417	1-101-924-11	0.022		
C418	1-121-409-11	47	16 V	elect
C419	1-121-651-11	10	16 V	elect
C420, 421	1-101-924-11	0.022		
C422	1-103-715-11	390 p		styrol
C423	1-101-923-11	0.01		
C424	1-101-924-11	0.022		
C425	1-102-951-11	15 p		
C501 (551)	1-131-206-11	3.3	25 V	tantalum
C502 (552)	1-121-926-11	33	10 V	elect
C503 (553)	1-102-978-11	220 p		
C505 (555)	1-101-880-11	47 p		
C506 (556)	1-106-005-12	0.0015		mylar
C507 (557)	1-106-019-12	0.0056		mylar
C508 (558)	1-121-911-11	0.47	50 V	elect
C509 (559)	1-105-661-12	0.001		mylar
C510 (560)	1-131-206-21	3.3	25 V	tantalum
C511 (561)	1-105-661-12	0.001		mylar
C512 (562)	1-123-044-11	33	25 V	elect
C513 (563)	1-121-913-11	3.3	25 V	elect
C514 (564)	1-121-416-11	100	25 V	elect
C515 (565)	1-105-685-12	0.1		mylar
C516 (566)	1-121-398-11	10	25 V	elect
C601 (651)	1-105-677-12	0.022		mylar
C602 (652)	1-107-137-11	180 p		silvered mica
C603 (653)	1-131-206-11	3.3	25 V	tantalum
C604 (654)	1-121-392-11	3.3	25 V	elect
C605 (655)	1-105-679-12	0.033		mylar
C606 (656)	1-105-679-12	0.033		mylar
C607 (657)	1-105-665-12	0.0022		mylar
C608 (658)	1-121-398-11	10	25 V	elect
C609 (659)	1-121-352-11	47	10 V	elect
C610 (660)	1-102-978-11	220 p		
C611 (661)	1-102-978-11	220 p		
C612 (662)	1-102-978-11	220 p		
C613 (663)	1-121-392-11	3.3	25 V	elect

Ref. No.	Part No.	Description		
C614 (664)	1-106-023-11	0.0082		mylar
C615 (665)	1-106-013-12	0.0033		mylar
C616 (666)	1-106-041-12	0.047		mylar
C617 (667)	1-106-031-12	0.018		mylar
C618 (668)	1-121-392-11	3.3	25 V	elect
C619 (669)	1-121-392-11	3.3	25 V	elect
C620	1-105-671-12	0.0068		mylar
C701 (751)	1-121-392-11	3.3	25 V	elect
C702 (752)	1-102-963-11	33 p		
C703 (753)	1-121-935-11	100	25 V	elect
C704 (754)	1-102-944-11	7 p		
C705 (755)	1-102-963-11	33 p		
C706 (756)	1-121-392-11	3.3	25 V	elect
C707 (757)	1-123-058-11	47	50 V	elect
C708 (758)	1-105-679-12	0.033		mylar
C709 (759)	1-105-665-12	0.0022		mylar
C710 (760)	1-105-665-12	0.0022		mylar
C711	1-121-935-11	100	25 V	elect
C801～804	1-105-917-12	0.022	200 V	mylar
C807	1-121-413-11	100	6.3 V	elect
C808	1-121-411-11	47	50 V	elect
C809	1-121-392-11	3.3	25 V	elect
C810	1-121-726-11	0.47	50 V	elect
C811, 812	1-121-936-11	220	25 V	elect
C814, 815	1-121-935-11	100	25 V	elect
C816, 817	1-123-090-11	47	63 V	elect
C818, 819	1-105-725-12	0.1	100 V	mylar
C820	1-121-410-11	47	25 V	elect
C821	1-121-936-11	220	25 V	elect
C823	1-121-392-11	3.3	25 V	elect
C824	1-105-673-12	0.01		mylar
C825	1-101-923-11	0.01		
C831～834	1-105-717-12	0.022	100 V	mylar
C835	1-123-118-11	3300	35 V	elect
C836, 837	1-121-935-11	100	25 V	elect
C901, 902	1-123-089-11	6,800	63 V	elect
CT401, 402	1-141-147-00	trimmer		

Ref. No.	Part No.	Description		

RESISTORS

All resistors are in Ω. 1/4 W, ± 5 %, carbon resistors (except special type) are omitted.
Check schematic diagram for the resistance values.
(k = 1000, M = 1000 k)

R301	1-202-557-11	220	1/2 W	composition
R704 (754)	1-211-676-11	39 k	1/2 W	carbon (nonflammable)
R711 (761)	1-202-583-11	2.7 k	1/2 W	composition
R712 (762)	1-202-583-11	2.7 k	1/2 W	composition
R714 (764)	1-211-534-11	330	1/4 W	carbon (nonflammable)
R715 (765)	1-211-534-11	330	1/4 W	carbon (nonflammable)
R716 (766)	1-211-522-11	100	1/4 W	carbon (nonflammable)
R717 (767)	1-211-582-11	4.7	1/2 W	carbon (nonflammable)
R718 (768)	1-217-158-11	0.47	5 W	metal
R719 (769)	1-217-158-11	0.47	5 W	metal
R720 (770)	1-202-525-11	10	1/2 W	composition
R721 (771)	1-202-517-11	4.7	1/2 W	composition
R722 (772)	1-202-565-11	470	1/2 W	composition
R723 (773)	1-202-565-11	470	1/2 W	composition
R817	1-202-565-11	470	1/2 W	composition
R821	1-202-587-11	3.9 k	1/2 W	composition
R822, 823	1-202-577-11	1.5 k	1/2 W	composition
R824, 825	1-202-582-11	2.4 k	1/2 W	composition
R826	1-211-530-11	220	1/4 W	carbon (nonflammable)
R827	1-211-514-11	47	1/4 W	carbon (nonflammable)
R828	1-202-550-11	110	1/2 W	composition
R829, 830	1-207-630-11	22	2 W	wirewound
R831, 832	1-211-505-11	20	1/4 W	carbon (nonflammable)
R833	1-207-929-11	2.7	5 W	wirewound
R835, 836	1-202-582-11	2.4 k	1/2 W	composition
R841	1-211-490-11	4.7	1/4 W	carbon (nonflammable)

Ref. No.	Part No.	Description
R905	1-202-719-11	1 M ½ W composition (USA Model only)
RT701 (751)	1-221-967-00	10 k, adjustable
RV201	1-222-765-00	47 k, adjustable
RV202	1-222-766-00	100 k, adjustable
RV301	1-222-752-00	10 k, adjustable
RV302	1-222-765-00	47 k, adjustable
RV303 (353)	1-222-752-00	10 k, adjustable
RV501 (551)	1-224-103-00	50 k(C), variable (MIC MIX)
RV601 (651)	1-224-102-00	250 k(M/N), variable (BALANCE)
RV602 (652)	1-224-102-00	250 k(B), variable (VOLUME)
RV603 (653)	1-224-101-00	50 k(B), variable (TREBLE)
RV604 (654)	1-224-101-00	50 k(B), variable (BASS)

SWITCHES

S1	1-516-199-00	Rotary/Slide (FUNCTION)
S2, 3	1-516-036-00	Lever/Slide (MONITOR)
S4	1-516-196-00	Rotary/Slide (MODE)
S5	1-516-036-00	Lever/Slide (LOUDNESS)
S6	1-516-197-00	Rotary/Slide (FILTER)
S7	1-514-524-00	Slide (NORMAL/SEPARATE)
S8	1-516-198-00	Rotary/Slide (SPEAKER)
S9	1-516-036-00	Lever/Slide (FM MUTING)
S11	1-516-007-00	Lever (POWER) (USA Model)
	1-516-315-00	Lever (POWER) (AEP, GEP, UK Model)
S12		– built in RV501 (551) –

FILTERS

CF1, 2	1-527-240-00	Fm I-f, ceramic
LPF301	1-231-219-00	Low-pass

LAMPS

PL901, 902	1-518-116-00	Dial, 11 V 360 mA
PL903	1-518-124-00	TUNING Meter, 8 V 250 mA
PL904	1-518-151-00	Pointer (with lamp), 5 V 60 mA
PL905	1-518-169-XX	STEREO, 4.5 V 40 mA
PL906	1-518-124-00	TUNER INPUT Meter, 8 V 250 mA
PL907~912	1-518-169-XX	FUNCTION 4.5 V 40 mA

Ref. No.	Part No.	Description
F901	1-532-237-00	3.15 AT (AEP, UK Model)
	1-532-252-00	2.5 A (GEP Model)
	1-532-269-00	2.5 A (USA Model)
F902	1-532-252-00	2.5 A (GEP Model)
	1-532-269-00	2.5 A (USA Model)
	1-532-350-00	4.0 AT (AEP, UK Model)
F903	1-532-350-00	4.0 AT (AEP, UK Model only)
F904	1-532-296-00	1.25 A (AEP, UK Model only)
F905	1-532-063-00	1.0 A (AEP, UK Model only)
F906	1-532-273-00	0.25 A (AEP, UK Model only)

MISCELLANEOUS

CB701 (751)	1-515-194-00	Breaker, circuit
CNJ902	1-507-265-00	Jack, HEADPHONE
CNJ903 ~905	1-509-403-00	Outlet, ac (USA Model only)
CNJ906, 907	1-507-394-00	Jack, MIC
CP201	1-231-278-00	Encapsulated Component
CP901	1-231-057-00	Encapsulated Component (USA Model only)
J901~908 (J951~958)	1-507-393-00	Jack, phono; 8-p
M901	1-520-140-00	Meter, TUNING
M902	1-520-141-00	Meter, TUNER INPUT
TM901 ~904	1-536-415-00	Screw Terminal Strip, 4-p (SPEAKER/ANTENNA)
	1-508-690-00	Plug, voltage selector
	1-509-437-00	Socket, power transistor
	1-509-517-00	Connector, REC/PB
	1-509-546-00	Connector, ac input; 3-p (AEP, GEP, UK Model only)
	1-517-057-00	Holder, meter lamp; 2-p
	1-533-090-00	Holder, dial lamp
	1-534-526-00	Cord, power (USA Model only)
	1-535-054-00	Lug Terminal (A)
	1-535-055-00	Lug Terminal (B)
	1-536-395-00	Terminal Strip, 1L1 (C)
	1-536-398-00	Terminal Strip, 2L2 (C)
	1-536-430-00	Terminal Strip
	1-582-233-00	Jumper Board, 8-p phono jack

ACCESSORIES AND PACKING MATERIALS

Part No.	*Description*
X-3701-029-0	Card Ass'y, warranty (USA Model only)
X-4490-002-0	Cloth Ass'y, polishing
1-501-083-21	Ribbon Antenna, fm
1-506-138-11	Plug, phono (red)
1-506-138-12	Plug, phono (white)
3-429-126-00	Bag, polyethylene; unit
3-701-020-00	Bag, polyethylene; instruction manual
3-701-622-00	Bag, polyethylene; warranty card (UK Model only)
3-701-730-00	Bag, polyethylene; IBM card (USA Model only)
3-701-742-00	Card, IBM (USA Model only)
3-780-670-11	Manual, instruction (AEP, GEP, UK Model)
3-780-670-21	Manual, instruction (USA Model)
3-793-520-00	Card, warranty (UK Model only)
3-793-831-11	Diagram, schematic (AEP, GEP, UK Model)
3-793-831-21	Diagram, schematic (USA Model)
4-822-390-00	Carton (AEP, GEP, UK Model)
4-822-391-00	Carton (USA Model)
4-822-392-00	Cushion